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Child Maltreatment in the United States Etiology, Impact, and Prevention

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I. INTRODUCTION

This background paper reviews the knowledge base on child abuse and neglect. Specifically, the following areas are covered in separate sections:

1. Defining child abuse and neglect.
2. Incidence and prevalence estimates.
3. The etiology of child abuse and neglect.
4. The manifestations, effects and costs of child abuse and neglect, short-term and long-term.
5. Primary, secondary and tertiary preventive programs.
6. Program evaluation and cost-effectiveness analyses.

While the author has aimed to present a comprehensive overview of the field, some areas have been dealt with in greater depth than others. In certain instances, such as the section on different programs, general principles are presented and sources of more detailed information are cited. The section on program evaluations offers a number of illustrative examples, rather than including all the work that has been done in this area.

Interest in clinical work and research in child abuse and neglect has grown exponentially over the last two decades, and there has been an appreciable refinement of the knowledge base in recent years. The major sources for this review were computer searches using the Child Abuse and Neglect computerized data base, PsychInfo, and Medline, for the last decade. Several final reports on major studies funded by the National Center on Child Abuse and Neglect (NCCAN) were helpful, particularly, The Exploration of Client Characteristics, Services and Outcome: Evaluation of the Clinical Demonstration of Child Abuse and Neglect (1); The Collaborative Research of Community and Minority Group Action to Prevent Child Abuse and Neglect, Volumes I-IV, (2,3,4,5); and the Collaborative Research Effort: Health-based and Mental Health-Based Services Improvement Demonstration Programs 6).

In addition, the work of a few individuals has been of great assistance in this background paper, particularly Starr's excellent review on physical abuse (7), and Finkelhor and associates' most recent book on sexual abuse (8). Most of the information on sexual abuse for this background paper was based on that review. Cohn and Daro's work in the two federally funded national evaluations done by Berkeley Planning Associates, and Daro's recent analyses of cost-effectiveness have also been very useful (1,9,10).

II. DEFINING CHILD ABUSE AND NEGLECT

In the United States, there is only a modest consensus regarding the definitions of child abuse and neglect. Different states, professional disciplines, public agencies, and political persuasions have conceptualized these phenomena in varying ways (11). The labels of child abuse and neglect involve a judgment about social deviance that stems from personal and societal values regarding parenting (11). Professional notions about the role of race and social class in child maltreatment have been shown to influence diagnostic and case management processes (12, 13, 14). Pragmatic considerations have also been influential, so that where resources are limited, thresholds for intervention are raised, and cases of probable abuse are screened out. Despite this variation in thinking and practice, there are certain principles that are generally adhered to.

Different forms of abuse and neglect are frequently categorized in these groupings: physical abuse, emotional or verbal abuse, physical neglect, emotional neglect, and sexual abuse. While this taxonomy has its usefulness, particularly for research purposes, the phenomena are rarely so discrete in real life. For example, excessive spanking has a psychological impact beyond the bruises it may cause. Indeed, the physical harm could well be minor, relative to the anxiety and fear engendered. Definitions also serve a useful function for legislative, public policy, and programmatic purposes. In clinical management, however, each case needs to be individualized and the particular facets of the child and family circumstances warrant careful "case by case" consideration.

Children differ, and what might be emotionally abusive for one child, might not be for another. If good access to health care is available, an unimmunized child could be seen as having critical health needs neglected. This would be construed differently if there were substantial obstacles to obtaining health care. While bearing these factors in mind, it is helpful to examine what is commonly seen to constitute child maltreatment. The term "child maltreatment" will be used in this paper because it is less cumbersome and less perjorative than "child abuse and neglect".

All 50 states have laws defining child maltreatment and mandating that professionals working with children report suspected cases. Typically these laws are rather vague, leaving a good deal open to interpretation.

Physical Abuse

Abuse implies an act of commission, neglect the consequence of an omission. Physical abuse refers to injuries that are inflicted, although violent behavior that potentially might be injurious fits some definitions. The intention to hurt is frequently implicit; however, abuse often results from angry and distraught parents losing their self control and lashing out impulsively. Cigarette burns, inflicted fractures, and belt marks are unambiguous examples of abuse. Concern focuses on the production of physical stigmata, although most professionals would agree that for young infants, any spanking, aside from the gentlest tap on the hand, is inappropriate and possibly abusive. There exists the inevitable "gray zone" where, for example, rough housing with an infant could result in injury. If the behavior is not seen as intending to hurt, however, the injury is apt to be diagnosed as "accidental". If ignorance or carelessness are responsible, the action could be seen as neglectful. Another gray zone concerns medical findings where the cause of the injury is difficult to determine.

Certain cultural practices have defied easy judgment and categorization. For example, it is a popular practice in Middle Eastern cultures to place hot glasses on the backs of sick children (15). A negative pressure results as the glass and trapped air cool, and the suction effect leads to perfectly round purplish bruises, several centimeters in diameter. This is believed to extract the evil spirits responsible for the illness. Although these bruises would initially be seen as suspicious by American health care professionals, most would not consider it abusive. Nevertheless, they would probably discourage the use of such treatment.

Where to draw the line in accepting practices that appear hurtful to children, but that are normative in another culture, poses difficult theoretical and clinical dilemmas. Where definite harm to the child is apparent, the custom is likely to be discouraged, but a report for maltreatment is seldom made. The use of corporal punishment in the U.S. has generated much debate. Many professionals argue that hitting a child is never appropriate or an optimal form of discipline, although they might not equate all corporal punishment with abuse (16). At the same time, the U.S. Supreme Court has upheld the right of schools to use corporal punishment (17), and there is extensive approval of this form of discipline across the country. It is only recently that several states have legislated against the use of corporal punishment in schools. If hitting is seen on a spectrum, with abuse at the one end and "regular" corporal punishment at the other, the cut-off point seems quite arbitrary. Child protection agencies typically require overt signs of physical or psychological harm before substantiating a case as abuse.

Definitions are guided primarily by their purpose. A pediatrician might consider corporal punishment to be abuse, and therefore counsel the parents about alternative disciplinary strategies. A social worker for the state Child Protection Service has a higher threshold for calling such behavior abuse, and may require bruising to substantiate the case report. A District Attorney interested in prosecuting abusive parents would probably only become involved if serious injuries are incurred. In this way, definitions are modified by the different parties concerned.

Physical Neglect

Critical omissions in caretaking that harm the child constitute neglect. Physical neglect involves the failure to meet fundamental needs, such as appropriate nutrition and clothing, and noncompliance with critical medical care. Interestingly, research has shown that while professionals and lay persons differ in their definition of optimal child rearing, they generally agree when defining inadequate care (18).

In addition, there is a gray area that falls between commission and omission. Examples include health habits of the pregnant mother that are known to indirectly harm the developing fetus, such as alcohol abuse, which is thought to impede growth and lead to several congenital anomalies and mental retardation, known as the fetal alcohol syndrome (19). The child maltreatment laws in several states mandate that infants born with this syndrome be reported. Cigarette smoking, however, which also retards fetal growth and affects the airways of young children, has not been construed as a form of abuse or neglect. In general, prenatal maternal behavior that harms the fetus is not defined as maltreatment.

A recent development concerns the medical treatment of handicapped newborn infants. "Baby Doe" was an infant born in Indiana in 1982 with Downs syndrome and a serious congenital abnormality. Although medical treatment was available, the parents and the attending physician concluded that the quality of life expected was sufficiently

dismal to justify withholding treatment. This decision was unsuccessfully contested in the County Circuit Court and the baby died at the age of 6 days. The concern of several individuals over the death of Baby Doe lead to the involvement of President Reagan, the U.S. Attorney General, and the Department of Health and Human Services (DHHS). The appropriate management of these seriously handicapped infants was debated for the ensuing two and a half years by the Federal agencies, medical organizations and citizens groups, and involved several court proceedings (20).

Traditionally, the formidable dilemmas of when to aggressively treat multiply handicapped infants, and when to resist "heroic" measures, have been resolved by parents together with the attending physician. Failure to treat these infants is now seen as medical neglect, unless the "treatment is deemed futile". The 1985 reauthorization of the Federal Child Abuse Prevention and Treatment Act, delegated the oversight of care for these infants to the state child protection agencies. Health care facilities have been advised to create Infant Care Review Boards to guide hospital staff in the implementation of "reasonable medical judgment." The states are required to include the area of medical neglect in their procedures for child abuse and neglect in order to be eligible for Federal funding for child maltreatment programs (21). Presumably, a report of allegedly inappropriate care would be investigated for medical neglect by the local child protection agency. However, in June 1986, the U.S. Supreme Court ruled that the DHSS could not rely on Section 504 of the Rehabilitation Act to authorize Federal involvement, although state child protection agencies were not barred from intervening (22). A definitive conclusion to this controversy has yet to be reached.

An issue that is gaining increasing public and political attention is the plight of homeless families in America; more than one quarter of the homeless population has been found to include families with young children (23, 24). Adequate shelter is a critical need of a child, and failure to provide this could reasonably be considered physical neglect. These families are in the most desperate of circumstances, and since culpability is difficult to assign, such cases are typically not construed as abuse or neglect. Indeed, most state laws provide that lack of financial means is a defense against allegations of neglect.

Emotional Abuse

Emotional abuse consists of parental behavior that is thought to damage the child's emotional well-being (25, 26). Actually, the more inclusive term of psychological abuse is more appropriate, because it is the entire realm of psychological functioning that is of concern. Inappropriately high expectations and demands on a child, or rejecting parents who repeatedly communicate their angry feelings toward their infant are examples of psychological abuse. In addition, harsh criticism, intimidating and terrorizing behavior, and the protracted isolation of a child are psychologically abusive.

Child mental health professionals might consider certain caretaking behaviors to be damaging to the optimal psychological development of a child. Child protection agencies, however, typically require a deleterious impact on the child to be demonstrated, and to be attributable to the abusive behavior, before the case is substantiated. This cause and effect relationship is usually very difficult to prove. Consequently, psychologically abused children that receive attention from child protection agencies tend to be flagrant cases, often involving serious parental psychopathology, or more frequently, they include other forms of abuse and neglect.

Emotional Neglect

Behaviors that by acts of omission neglect important psychological needs of the child, are considered emotional or psychological neglect (27). For example, an infant who is upset might require the affection and attention of a parent or caregiver for comfort. When this is done appropriately, a sense of security and trust is fostered. But the mother suffering from post-partum depression is less able to respond to her baby's cues, and the infant could withdraw and feed poorly, leading to the syndrome of failure-to-thrive.

As with psychological abuse, child protection agencies typically require the child to exhibit behavior or health problems attributable to the deficiencies in care. Their operational definition of neglect is only partly based on whether a child's needs are not being met, as measured against accepted community standards, and state agencies generally become involved only in cases that are severe or where other forms of abuse and neglect co-exist.

Sexual Abuse

Researchers, clinicians, and lawyers have defined child sexual abuse in varying ways. One researcher, David Finkelhor, has defined sexual abuse to include all types of contact and non-contact sexual abuse of children (28). Non-contact refers to experiences that do not involve any physical contact, such as encounters with exhibitionists or verbal solicitation to engage in sexual activity. His additional criterion was that, for children up to age 12, there had to be a 5 year discrepancy between the ages of the victim and the perpetrator, and 10 years for children between ages 13-16. More recently, Finkelhor has recommended that abuse be defined as "sexual contact that occurs to a child as a result of force, threat, deceit, while unconscious, or through exploitation of an authority relationship, no matter what the age of the partner" (8). Wyatt and Peters discuss the question of whether more restrictive criteria should be applied to adolescents. They conclude that there is little justification for different standards, based on research and clinical considerations (29). Another researcher, Russell, defined sexual abuse broadly, but distinguished between those subjects who did or did not consider the sexual experience to have been "unwanted". She also differentiated between intrafamilial and extrafamilial abuse, including non-contact abuse, in the former group up to age 17, and in the latter group, up to age 13 (30).

Clinicians generally apply somewhat different criteria. There is good agreement where physical force and contact are involved in a sexualized manner. Frequently, the perpetrator's behavior is seen to be motivated by a need for asserting authority or for sexual gratification. This reasonably excludes actions that are not usually sexualized, such as a mother cleaning her son's diaper area, or a father giving his five-year-old daughter a friendly pat on the backside. In addition, there is recognition of a range of normal exploratory sexual play between children, where curiosity and possibly some gratification, rather than the assertion of authority, is the likely impetus. Peer sexual relationships between adolescents pose a difficult dilemma for clinicians. Finkelhor's broad definition seems appropriate, but is difficult to apply in the clinical setting. The extent of resistance or cooperation can be difficult to evaluate in adolescents. Finkelhor offers valuable guidance for clinical practice, and the challenge is how to apply it.

Non-contact sexual abuse is seldom reported to health professionals, aside from rare situations where overt symptomatology is apparent and the child or family seeks assistance. Child protection agencies generally screen in only more severe cases of

sexual abuse, thereby ignoring the vast majority of non-contact instances. The legal system applies the strictest criteria, generally focusing on those cases where physical signs of sexual abuse are evident.

No single definition of child sexual abuse can suit all purposes. It would be a useful advance if professionals from the relevant disciplines would collaboratively establish standards of appropriate, inappropriate, and unacceptable sexual behavior involving children.

III. THE INCIDENCE AND PREVALENCE ESTIMATES OF CHILD MALTREATMENT

The American Association for Protecting Children, a division of The American Humane Association, has conducted a federally funded national incidence study of reported child abuse and neglect each year since 1974. Data have been based on official reports of child maltreatment to state child protection services agencies nationwide. While all states and jurisdictions did not contribute case level data, all states were surveyed for information on report totals, sources of the data, and characteristics of the reporting systems.

The methodology employed in these studies has certain limitations. Data were based exclusively on cases that were identified and then reported to the responsible state agency. However, a study of professional attitudes and reporting behavior reveals that only approximately one third of known cases are reported (31). Professional stereotyping of poor and minority groups has been found to bias which families get reported (12, 13, 14). The three-year-old white boy with a broken leg who is brought to his suburban pediatrician appears significantly less likely to be diagnosed and reported as a victim of abuse than a three-year-old black boy with a broken leg, and the same history, taken to the city hospital emergency room.

Aside from professional reporting bias, many cases remain secret within the family, and are never brought to the attention of professionals. In addition, many cases of abuse, particularly incest, are kept secret between certain members within a family. Clinicians have found that incest victims frequently delay disclosure of their abuse for substantial periods, and many probably never reveal their painful pasts.

Finally, there is the behavior of child protection agencies to consider. Without a consensus on definitions, and given that state laws are usually vague, social workers screen out or fail to substantiate approximately 58% of case reports of abuse and neglect (32). In general, child protection services staff are undertrained and overwhelmed; they therefore raise their thresholds for accepting cases as they attempt to meet great demands with inadequate resources. While some reports are certainly made in the absence of maltreatment, there seems little doubt that a proportion of cases screened out or not substantiated by protective services are, in fact, cases of maltreatment.

With these cautionary notes in mind, the following are key statistics from the most recent incidence report, for 1984 (32).

- o 1,727,000 child abuse and neglect reports. (This number includes each report on those children reported more than once).
- o Between 1976 and 1984, reports increased by 158%
- o 27.3 reports per 1000 U.S. children were made in 1984
- o 33.5% of these cases were reported for abuse
- o 42.1% of cases were reported for neglect
- o 16.3% of cases were reported for abuse and neglect
- o 8.1% were unspecified reports
- o 42% of the reports were substantiated by child protection services agencies.
- o Of the 27.3 reports per 1000 children, 1.6 reports were for sexual maltreatment (compared with a rate of .09 per 1000 in 1976, and a 35% increase over the 1983 rate).

In 1985, Straus and Gelles used a different methodology to ascertain the incidence of physical abuse (33). They used a national probability sample of 1,428 households, which met these study criteria: 1) the household included two adults, a male and female 18 years of age or older, who were married or living as a couple; and 2) the household included at least one child between 3 and 17 years of age.

Households were surveyed by telephone with the Conflict Tactics Scale (CTS), which has been used in several studies on family violence, and has been found to have good reliability and validity. Respondents were asked to reflect on the past year and to indicate how conflicts between family members were resolved. The scale provides a list of strategies ranging from "discussing the problem" to "using a gun or a knife," and in this way, reasoning, verbal aggression, and physical aggression are assessed. A report of any of the violent acts in the CTS contributed towards the incidence of "overall violence". A severe violence index consisted of this subset of items: kicked, bit, punched, hit with fist or an object, beat up, threatened with a knife or gun, and used a knife or a gun. "Very severe violence" included: kicked, bit, hit with fist, beat up, used gun or knife.

A few limitations of this study should be noted. The data are based on the self-reports of respondents to anonymous telephone interviewers. It seems likely that social desirability would lead some to deny their violent behavior, resulting in an underestimate of the incidence of violence. Secondly, the study included only children between 3 and 17 years of age, and who were living with two adults over the age of 18. By excluding children under 3, and those living with a single parent, two important high risk groups for maltreatment are excluded. Again, this should result in the study findings underestimating the incidence of violence. Thirdly, the sample size of 1,428 is moderately small, and there are very few responses to certain items. This warrants caution in extrapolating from this sample to the nation. The results of the study are presented in Table 1.

TABLE 1. Parent-to-Child Violence.

	<u>Type of Violence</u>	<u>Percent of Children</u>
A.	<u>Minor Violence Acts</u>	
	1. Threw something	2.7
	2. Pushed, grabbed, shoved	30.7
	3. Slapped or spanked	54.9
B.	<u>Severe Violence Acts</u>	
	4. Kicked, bit, hit with fist	1.3
	5. Hit, tried to hit with something	9.7
	6. Beat up	0.6
	7. Threatened with gun or knife	0.2
	8. Used gun or knife	0.2
C.	<u>Violence Indices</u>	
	Overall Violence (1-8)	62.0
	Severe Violence (4-8)	10.7
	Very Severe Violence (4,6,8)	1.9

Source: Straus and Gelles (1986)

It is of interest that Straus, Gelles and Steinmetz conducted a similar, but not identical study in 1975 (34), and that the 1985 study indicated a significant decrease in the severe and very severe violence categories. This decrease could be due to methodological differences or possibly an increased reluctance of respondents to report their violent behavior. The authors conclude that while this apparent decrease is encouraging, an extremely high level of violence against children persists.

Sexual Abuse

Given the varied definitions of sexual abuse, it is not surprising that the estimates of its incidence and prevalence vary greatly. Finkelhor has reviewed the various studies in his most recent book (8), and the prevalence data in this section are derived from that source.

Two studies have been conducted to quantify the incidence of child sexual abuse nationwide. The American Humane Association has collected data based on reported cases from most state child protection agencies, and used them to extrapolate national estimates. They estimated 15.88 cases of sexual abuse per 10,000 children in 1984, a steady increase from 0.86 cases per 10,000 children estimated in 1976 (32). These numbers are acknowledged to be gross underestimates, because many instances of sexual abuse are not identified and brought to the attention of child protection agencies. The increase is due to several factors: growing public awareness, expanded definitions to include extra-familial abuse, and the proliferation of sexual maltreatment programs. Of course, this increase could represent an actual trend in the incidence of sexual maltreatment.

Another incidence study was conducted by the National Center on Child Abuse and Neglect, in which they randomly sampled professionals and child protection agencies in 26 U.S. counties (31). For the year starting May 1, 1979, 44,700 children were estimated to have been sexually abused, equivalent to an incidence rate of 0.7 per 1,000 children per year. Again, this number is likely to be an underestimate, given that only a fraction of cases are thought to be brought to professional attention.

The more useful estimates are from studies of the prevalence of child sexual abuse, summarized in Table 2. These are retrospective studies that survey women and men about their childhood sexual experiences.

The rates reported for girls range from 6% to 62%, and for boys from 3% to 31%. Finkelhor discusses several factors that could possibly explain such a variation in prevalence rates, which are described below.

1. Definition. The inclusion of non-contact forms of abuse and peer experiences during adolescence partly explain the higher rates of some studies.
2. Sample characteristics. The age of respondents at the time of the study, their education and socioeconomic status, and their ethnicity did not appear to significantly influence the prevalence rates. In addition, there were no clear regional trends, except that two of three studies in California reported higher than average prevalence rates.
3. Methodological factors. Sampling techniques were found to result in rates between 11% and 22% for nonprobability studies, compared to a range of 6% to 62% for probability samples. While the difference in the ranges is

apparent, probability sampling did not consistently lead to higher or lower rates. Response rates did not explain differences in prevalence rates, but the mode of administration of the interview had a significant influence. The highest estimates were obtained using face-to-face interviews; the lowest rates resulted from telephone interviews; and self-administered questionnaires occupied an intermediate position. Finally, higher prevalence rates were associated with the use of more than four, specific screening questions.

IV. THE ETIOLOGY OF CHILD MALTREATMENT

Many theories on the etiology of child maltreatment have been proposed. These include parental psychopathology (35), child characteristics (36), difficulties in "bonding" and in the parent-child relationship (37), social isolation (38), stress (39), and a societal sanctioning of violence (40). More recently, it has been recognized that individual factors rarely offer a satisfactory causal explanation; instead, these factors have been integrated into an ecological theory on child maltreatment (41,42,43,73).

The ecological theory considers the individual in the context of the surrounding environment. The individual is influenced by the environment, and also influences that environment. The environment of individual family members, the parents and the child, consists of the family setting, the surrounding community, and the society at large. At each of these levels there are risk factors for child maltreatment.

Clinicians are particularly aware of the immense heterogeneity that exists among maltreating families. Differences exist between the major defined categories of maltreatment, so that the circumstances involving a case of physical abuse might be quite different from those of a neglected child. This is especially so for sexual abuse, where risk factors are frequently quite distinct from other forms of maltreatment; for this reason, sexual abuse will be discussed in a separate section. Indeed, even within each category of maltreatment, there exists considerable heterogeneity among families.

Although clinical practice warrants an individualized, "case by case" approach to develop a service plan appropriate for a specific child and family, epidemiologic studies reveal patterns and common underpinnings of the different forms of maltreatment. It has been argued that less emphasis should be placed on the symptoms, i.e. physical abuse or psychological neglect, and that attention should instead focus on the underlying contributory factors toward child maltreatment (44). Utilizing this framework, the risk factors for physical abuse and neglect, and psychological abuse and neglect will be addressed together under the rubric of child maltreatment, and examination of sexual abuse will follow.

At the outset, it is important to acknowledge that much of our current understanding is based on data from identified cases. To the extent that this sample fails to reflect the true phenomenon or only one part of it, this "knowledge" is a misrepresentation.

The research has several other shortcomings. Research in the area of child maltreatment is relatively new, since the "discovery" of "The Battered Child Syndrome" in 1962 (45). Many of the studies focus on physical abuse, fewer focus on neglect, and there is relatively little on psychological abuse or neglect. Most studies of sexual abuse have been done within the last decade. Consequently, much of the research is exploratory and descriptive, rather than testing explicit hypotheses, and many of the studies employ design methodologies that have major deficiencies. Plotkin et al (46) critically evaluated the literature addressing the etiology of child maltreatment, and found a lack of appropriate comparison or control groups, a lack of hypotheses, and questionable reliability and validity of data sources. For example, the most common source of data was the clinical impression of the clinician involved in the case. Only 36% of studies reported inferential statistics, many of which were inappropriate. Only 5% of 270 articles had acceptable statistical analyses.

The authors compared the use of appropriate comparison groups, inferential statistics, and clinical impressions as the data source, in studies conducted between 1961 and 1980. They found a positive trend, with the later research attaining higher standards. It appears probable that this trend has continued, although many of the deficiencies noted are still apparent. In this review, risk factors will be assessed as to their scientific basis using the best available studies, especially those employing a comparison/control group and a prospective design. The risk factors will be dealt with at the levels of the individual, family, community and society. As mentioned earlier, none of these factors alone offer a satisfactory causal explanation.

In addition to portraying the multifactorial etiology of child maltreatment, the ecological model draws attention to the interacting influences among contributory factors. This is critical to understanding child maltreatment, because by themselves most factors offer only a limited explanation. Straus, for example, shows that the impact of a high-risk childhood on parents' caregiving abilities is most likely to lead to maltreatment when the parents experience stress (39).

THE INDIVIDUAL LEVEL

Child Factors

Age. The majority of studies report younger children, under 6 years of age, as being at greater risk than older children for maltreatment. A study of children reported over a 4 1/2 year period revealed the highest incidence of confirmed physical abuse was in children under three years of age (62 cases/100,000 children) (47). Garbarino and Gilliam found different circumstances for abuse at different ages (48). Another study detected modest correlations between young age and physical abuse, neglect and mild discipline, but not between age and psychological abuse (49). The 1986 American Humane Association (32) report stated the following average ages: 7.3 years for all maltreated children, including adolescents; 5.3 years for children with major physical injuries; 8.1 years for emotionally maltreated children. In their 1985 report, the American Humane Association found that nationally, 64% of abused children with major physical injuries and 37% with minor ones were under 6 years of age (50). In Straus et al's national survey of how families resolved conflicts, substantial physical force was most likely used against children under 5 years, or against 15 to 17 year olds (34).

Except for the last study, these data are derived from case reports and it is likely that professionals perceive young children as being especially vulnerable, and are thus more responsive to their maltreatment. However, this vulnerability of infants and toddlers is also real, because they are relatively unable to defend themselves. It is also plausible that younger and more dependent children place greater demands on their parents, thereby contributing to stressful and abusive situations. There appears to be a moderate over-representation of young children among the maltreated population.

Perinatal Problems. In a careful case-control study, Leventhal found no relationship between either prematurity or low birth weight and child abuse (51); a conclusion supported by two prospective studies (52, 53). Although a number of retrospective studies have had conflicting findings as to whether prematurity constitutes a risk factor for subsequent abuse (54, 55, 56), the best available data do not demonstrate a connection. With regard to other perinatal problems there is no apparent increased risk. Again, the major prospective studies reveal no relationship between perinatal difficulties and subsequent abuse (52, 53), whereas retrospective studies have conflicting results (54,55).

The relationship between congenital disorders and maltreatment is also unclear; several studies have had conflicting results (52,57,58). It is notable that the prospective studies fail to find a relationship.

Given the substantial influence premature and handicapped children have on family functioning (59), it is surprising that no clear relationship to maltreatment has been found. Clinicians who work with handicapped children recognize the considerable stress that can be experienced by these families. However, if the vast majority of families with premature or handicapped children cope adequately and do not maltreat them, this could make a small but real effect statistically insignificant in a small sample. Caution is warranted regarding the prospective studies involving congenital anomalies, since the sample sizes were small. Given the equivocal evidence to date, congenital anomalies and developmental disabilities may warrant concern and support. But, as with many of the other possible risk factors, their contribution to child maltreatment, if any, is likely to be relatively minor.

Child's Health Status. Lynch found that abused children suffered from more major and minor health problems in the first year of life than did their nonabused siblings (60). Ill children are more frequently irritable and this may elicit abuse (61). In addition, abused children have been found to become ill more often (36). A case-control study found that both abuse and non-organic failure to thrive (i.e. inadequate growth, resulting primarily from psychosocial factors) were significantly associated with health problems in the first 6 months of life (57). However, the abuse and failure to thrive groups were also found to have significantly more "family dysfunction" than the comparison groups during the child's first year. This factor could confound the suggested causal relationship between ill health and subsequent abuse. It appears reasonable to conclude that the poor health of a child might make a modest contribution to abuse, but can also be a consequence of maltreatment.

The "Difficult" Child. Research suggests that children whose behavior is difficult for their parents to manage tend to evoke anger and abuse. Infant crying has been shown to trigger an abusive outburst by an already aroused parent (62,63).

Normal developmental stages present different challenges to parenting. For some families, the pre-verbal infant might cause frustration; for others, the activity level of the curious toddler might test their patience. It is evident that a normal child can be perceived as being "difficult", perhaps reflecting the parental personality and coping abilities. In addition, children have different temperaments, and there are those who truly deserve the label "difficult" (64). It is easy to see how their behavior could test even the most nurturant of parents. The question of cause or effect again arises, and especially when older children with difficult behavior have been maltreated, it is frequently unclear what came first.

Parental Factors

Maternal Age. There has been a good deal of speculation as to the increased risk for young mothers, particularly adolescents, to maltreat their infants. Leventhal reported significant differences between abuse cases and controls for maternal age at delivery (21.4 vs 23.2 years), and for maternal age at first delivery (19.1 vs 20.3 years), with maltreating mothers being younger (51). In their review of several studies, Kinnard and Klerman reported that 39% to 52% of reported child maltreatment cases involved mothers who were adolescents at the time of birth of their first child (65). This is compared with a range of 33% to 39% as the incidence of adolescent mothers during the

period the studies were conducted. The American Humane Association has consistently reported an average age of perpetrators of maltreatment as around 31 years (32). Several studies have found no association between maternal age and abuse (47,66,67).

Aside from methodological differences that might explain these conflicting results, it is unlikely that age alone would explain much of the variance between maltreating and control groups. There is considerable heterogeneity among the support systems of young parents; for example, many of them live with their families, and their infants are cared for by a grandparent.

History of Abuse as a Child. The intergenerational transmission of child abuse has been the subject of a great deal of controversy. Generally, retrospective studies of the parents of children currently identified as abused, have found a relatively high prevalence of parents who themselves had been abused as children (68,69). No comparison groups were studied, however. The view that "violence begets violence" has been challenged by Gil's study, where only 14% of mothers and 7% of fathers in identified maltreating families had a history of abuse (70), and by others (71).

Prospective studies that have examined the parenting practices of parents who were not abused as children are more helpful. These studies have had varied research designs, yielding estimated rates of intergenerational transmission ranging from 18% to 70% (72,73,74). Kaufman and Zigler have reviewed this literature and they estimate the rate to be $30\% \pm 5\%$ (75). This is about six times higher than the base rate for abuse in the general population. This finding suggests that while a history of maltreatment is an important risk factor in the etiology of abuse, the majority of maltreated children do not become abusive parents.

Parental Intelligence. In his review, Starr found little support for the hypothesis that abusive parents are less intelligent, despite "its intuitive appeal" (7). In his own study, he found no IQ differences between the abuse and comparison groups (76). If there is any relationship between intelligence and maltreatment, it is probably with neglect rather than abuse (7,77).

Parental Psychopathology. During the years following Kempe et al's seminal paper on "The Battered Child Syndrome", the thinking in the field centered around parental psychopathology, and several studies described the psychopathological traits of the abuse perpetrators (35,78,79). Later work, however, showed that most abusive parents were not psychotic (80). Nevertheless, addressing individual's psychological problems remains the mainstay of many treatment approaches.

No single abusive psychological profile or pattern has been found to exist. Instead, general descriptions of displeasure around parenting, and stress-related complaints emerge. Several studies have described depression in abusive parents (81,82,83). Polansky has described the "apathy futility" syndrome as underlying child neglect (84) and parental depression appears to be an important component of this syndrome.

Wolfe has conducted an excellent review of the psychological distinctions between abusive and nonabusive parents (85). He cites studies by Wright (86), Gaines et al (87) and Starr (76), which did not find significant group differences on multiple measures of personality.

A number of studies, however, have reported case-comparison differences in psychological characteristics of abusive parents. Milner & Wimberly (88) and Spinetta (89) found abusive parents reported more psychological symptoms, such as anger, unhappiness, and rigidity, than did non-abusive parents. Another study described abusive parents' need to be in control, and rigid beliefs about acceptable child behavior (90). Abusive parents have also been found to be suspicious and aggressive (91) and in their prospective study, Altemeier et al found a correlation between abuse and other aggressive or violent tendencies (67). The difficulty that abusive parents have in controlling their angry impulses has been described in a number of studies (67,88,92).

The importance of stress as a contributory factor to child maltreatment will be addressed later. It has been postulated that people who are emotionally aroused and then subjected to emotional distress are more likely to become aggressive (92,93). Results of laboratory studies suggest that abusive parents are in a frequent state of physiological arousal (94,95,96).

Researchers have also found increased reports of affective and somatic distress among abusive parents (97,98). Abusers reported more physical health problems, more symptoms of depression and physical and emotional distress, and more problems related to stressful child rearing than did controls.

There is no typical abusive parent and there does not appear to be a psychological syndrome or profile of abusive parents. The data, however, are highly suggestive that at least a subset of them do have psychological characteristics, such as a lack of impulse control or a state of emotional arousal, that contribute towards child maltreatment. It should be added that no study has specifically focused on the minority of maltreatment cases where children are repeatedly and maliciously tortured. It is assumed that the nature and extent of psychopathology would be different and greater in this group.

Parental Awareness. Newberger's research describes four developmental levels of parental awareness concerning children and the parental role (99). The levels range from a concrete conception of the child and understanding of the parental role couched in terms of the parent's own needs, to an awareness of the child as a complex and separate being and of the parental role as a dynamic and reciprocal relationship between parent and child. Newberger found that abusive parents have lower levels of parental awareness.

Parental Perceptions of Their Child. Studies of parental perceptions of their child have yielded mixed results. A number of case-control studies have found no differences between abuse and control samples (76,87,100,101), while other case-control studies report abusive parents as having more negative perceptions of their child (89,98,102). Child temperament is typically assessed by maternal report, perhaps offering insight into the mother's perceptions of the child more than reflecting the child's true temperament. Moreover, parents who are coping poorly frequently describe normal child behavior as difficult (103,104).

Parental Knowledge of Child Development. Limited parental knowledge of child development together with excessive and unrealistic demands on the child, have been hypothesized to contribute towards child abuse (80,105). Research findings are contradictory; several studies find abusive parents no different from other parents in their knowledge of development (76,89,106,107), whereas others detect deficiencies in the knowledge of abusive parents (94,103). Again, methodological problems such as the use of poor assessment measures or inappropriate comparison groups have contributed to conflicting results.

Starr suggests that although abusive parents do not appear to clearly deviate in their knowledge of child development, it remains possible that this knowledge is not put into practice (7). However, parental ignorance might be a more significant factor in neglect than in abuse; this would be consistent with the association between lower intelligence and neglect cited earlier. In addition, there are data that suggest the unrealistic expectations of abusive parents are for more complex achievements, such as a child's ability to take care of himself, rather than knowledge of developmental milestones (76,103).

Disciplinary Strategies. Several studies have found that abusive parents employ inadequate and ineffective disciplinary techniques, rather than excessively aversive or punitive approaches. These include poor communication, fewer positive behaviors (108,109), and less stimulation (110). Investigations of the perpetrator's use of punishment have resulted in equivocal findings. Although abusive parents have been found to be more aversive toward their child in some studies (109), other studies detected no differences (76,98,108). The finding of little use of harsh punishment is not surprising, since parental self-report or research observations of the parent-child interaction are the study methods usually employed.

THE FAMILY LEVEL

Parent-child interaction

Although a great deal of attention has been focused on parental and child factors, a problematic relationship between parent and child is thought to be an important cause of child maltreatment. Several well-controlled studies have demonstrated that abusive parents are less engaging and more aversive toward their children than non-abusive parents (85,111,112). For example, Wasserman et al found abusing mothers to ignore more, initiate less play and offer less verbal teaching than did the comparison group (113). In addition the abusing mothers behaved more negatively and had less positive affect in playing with their infants.

Naturally, the child is effected by and contributes toward the relationship with his or her parent. In Wasserman's study, the abused infants complied less with their mothers' attempts to direct their play. Another study found school-aged abused children had lower rates of interaction and fewer positive encounters compared to non-abusing families (114). Abused children have been found to be both verbally & physically aggressive with more curious behavior directed toward mothers than fathers (45). Again the question of cause or effect (or both) arises, but this data strongly suggest a problematic parent-child relationship contributes toward maltreatment.

Stress

The contributing role of stress has been raised. This factor ties together the individual parent's internal psychological characteristics with external stressors and resources in the environment. This points to a limitation of many studies that crudely assess stress by counting events that are assumed to be stressful, rather than examining the effect of the event on the subject.

In a national sample, Straus found that as the number of stressors increased, so did the rate of child abuse (39). Fathers who scored high on the stress index had a child abuse rate of 35 per 100 children compared to those with low stress who had a rate of .5 per 100 children. Further analyses led Straus to conclude that stress alone is not sufficient cause for child abuse. Other conditions, such as the presence or lack of social supports served to protect or endanger the child, mediating the relationship between stress and maltreatment. This kind of analysis helps explain why, while stress contributes to maltreatment, the majority of highly stressed parents do not abuse their children (110).

Straus' findings are supported by several other studies (101,102,106), whereas two retrospective studies found no differences in frequency of stressful events between abused and control groups (76,116). To properly understand the effect of stress, it is necessary to assess modifying factors, to refine the categorization of stress, i.e., short-term compared to chronic, and to probe the actual effect of a probable stressor on an individual subject. Many of the etiological factors associated with child maltreatment probably impose stress on parents and on the family.

Single Parenthood

In 1984, 37% of families reported for child maltreatment had a single female as the head of the household, compared with 23% of all U.S. families with children under age 18 (32). A retrospective study of a random sample of parents found their punishment histories as children to be twice as frequent in those who were raised in single families, compared to two parent families (117). Harsh punishment was particularly associated with single parenthood due to divorce rather than the death of a parent. Brunquell's study also found single parenthood to be a risk factor for abuse (91), although another prospective study did not (103).

Raising a family as a single parent can be extremely stressful, without having another adult to share the many responsibilities. It is therefore not surprising that most of the evidence suggests that single parenthood contributes toward child maltreatment.

Number of Children

Having several children in the family has been postulated as a source of stress, leading to an increased rate of maltreatment (118,119). American Humane Association data (1986) report 2.17 children as the average number in a household from where a report for maltreatment emanates (32), compared to a national average of 1.89 (120).

Straus et al found that the rate of abuse was twice as high in families with two children, than those with only one (34). The rate increased as the number of children increased up to five children, and then decreased with the least violence in the largest families. They offer the explanation that in the largest families, the older children are able to help with family tasks. In addition, larger families had an increased likelihood of maltreatment in the poorest, but not in the highest, socioeconomic class. This suggests that poverty, together with multiple children, are the key factors.

Spacing of Children

Limited spacing between children has been found to increase stress, and lead to parents being more punitive and less supportive of their children as the interval between births decreases (67,121,122). Groothuis et al reported a case-control study involving twins, an extreme form of limited spacing (123). Although other key variables associated

with twins were significant predictors of abuse (longer nursery stays, lower birth weights and lower Apgar scores at one and five minutes), twin status was the most powerful predictor in the regression analysis.

Living Conditions

Crowded living conditions have been found to be a risk factor for abuse (124,125), as has living in public housing projects (126). Poor housing (127) and moving to a new home (67) have also been reported as risk factors for abuse.

Substance Abuse

The data concerning drug and alcohol abuse in abusive parents and their families remains ambiguous. Some studies have reported an association (119), while others have failed to find any difference between abusive parents and nonabusive parents in their drug or alcohol use (67,72). These conflicting findings might be explained by the differences in the assessment measures used. Clinical experience suggests that alcohol and drug abuse is an important factor in domestic violence. It is obviously difficult for the alcoholic or drug addicted parent to responsibly and consistently nurture a child. Neglect, if not abuse, is an obvious concern.

Supports

An important resource to support family functioning is the help family members extend to each other, including relationships with members of the extended family. It has been postulated that maltreating families lack these supports, but research findings have been inconsistent (35,67,72,116).

A New Baby

The birth of a new baby has been suggested as an important potential stressor, since family members need to adjust (128,129). Many prevention programs have focused on this early period to support families (2,130). The establishment of early rapport between parent and child, termed parent-infant bonding, has been seen assumed to be critical. Failure to bond has been suggested to be a contributor toward subsequent maltreatment (37). Studies have suggested that newborns who are separated from their parents, and children who are not securely attached to their parents, are at risk for maltreatment (37,131).

Concerning newborns, it now seems evident that while the "bonding issue" made a valuable contribution toward humanizing obstetric care, its critical importance has been overstated (132). There are other opportunities for attachment to develop, and a problem with early bonding is likely to contribute only modestly to subsequent maltreatment. Maltreatment is unusual in the first few months of life, but this period is seen as important in establishing a strong foundation for positive family relationships.

Other Family Violence and Relationships

Interspousal violence has been found to present a direct risk for the children in the family to be abused (34). This is in addition to the adverse indirect effects on children of observing domestic violence (133).

Finkelhor, among others, has argued that family violence is an abuse of power: "abuse tends to gravitate to the relationships of greatest power differential" (134). This is supported by data demonstrating that men commit most violent acts, and older persons (adults and children) typically assault younger children. While crude statistics show fathers and mothers to be about equally responsible for child abuse (32), considering that fathers spend far less time with their children, they pose a disproportionately larger risk. It is on this premise that therapeutic interventions include efforts to establish mutual respect and a degree of equality among family members. Finkelhor also describes abuse as a response to perceived powerlessness. The violence in these cases might be instrumental, directed at establishing authority, or an expression of the parent's frustration and loss of control.

THE COMMUNITY LEVEL

It is primarily through the neighborhood that the child begins to experience society. "Social impoverishment" refers to a community's inability to support the social needs (e.g. friendship, security) of individuals and families. While overall poverty strongly influences the stressors and supports in a neighborhood, social impoverishment may be especially crucial in placing families at higher risk for child maltreatment (135).

In such neighborhoods, Garbarino and Sherman found very needy families, clustered and competing for scarce social resources. Houses and families were "run down", people were less able to give to each other, and more likely to take advantage of others, compared to people in less impoverished areas. They found that "families are struggling and family life is threatened from within and without. Being surrounded by others in a similarly desperate situation compounds the family's own problems. Strong support systems are in short supply, and ironically, such needy families and neighborhoods are very difficult to serve and organize."

Social isolation is the converse of social supports. Social supports promote a sense of identity, self-esteem, and physical well-being, and help the individual cope with stressful events (136). Numerous studies have supported the role that social isolation and a lack of support networks play in maltreating families (38,76,94,100,102,104).

Garbarino explains the mediating process between isolation and child maltreatment (43). A destructive "emotional climate" is generated as personal and social factors interact. "Personal vulnerability is usually compounded by a lack of contact with potent, pro-social family support systems, including a disinclination to seek help in solving problems, a lack of involvement in reciprocal helping relationships..." An added facet of isolation, is that it precludes the family from the input and feedback of others, and interested or concerned outsiders are unable to observe what happens within the family. Child maltreatment is seen as a symptom of this unhealthy emotional climate. There is little doubt that maltreating families are often found to be socially isolated. The question is whether this reflects a primary phenomenon, or rather a consequence of another problem such as parental psychopathology, or both. For example, social isolation might result when a depressed person withdraws from social interaction, and where a community avoids contact with a family considered to be maltreating.

THE SOCIETAL LEVEL

Ethnicity

Hampton has examined the literature on ethnicity and child maltreatment (137). Studies based on reports made to children protective services agencies have shown that ethnic minorities, the less educated, and the poor to be over-represented (47, 70). A study that only considered substantiated cases found that Blacks had the highest rates, followed by Mexican-Americans and Whites, and this was supported by a secondary analysis of the same data that controlled for social class and community characteristics (138). Jason found that the child homicide rate for Blacks was 3.7 times that of Whites (47).

Research has documented the tendency to label minority groups and the poor as maltreating, largely due to professional stereotypes and bias (12). Straus et al's national survey, based on a representative sample not identified for maltreatment, found little difference between black and white families in their rate of violence (34). Another study assessed the definitions of maltreatment by different ethnic groups, including professionals and lay people (11). Respondents were asked to rate a series of vignettes according to the "seriousness of its impact on the welfare of the child." Results were the opposite of what was expected: Blacks and Hispanics gave more serious ratings than the Anglos.

It is therefore unclear whether Black children are at increased risk for maltreatment. In considering the possibility that they are, Hampton considers several factors that impact upon the quality of black family life: extreme environmental stress, poverty, high unemployment, adolescent pregnancies, single parenthood, and mental health problems. This implies that child maltreatment in Black families may be a secondary effect of societal violence against Black families. A correlation between race and other risk factors or the interaction of race with other risk factors may explain the possibly increased risk to Black children.

Attitudes Toward Violence

Based on his research, Straus has concluded that the United States is a country that practices and approves of violence (74). Compared to other western nations, the level of violence in the U.S. is extremely high. Statistics on violent crimes and content analyses of television programs attest to the pervasiveness of violence in every-day life in the U.S. (17,125). The Federal government has recently evaluated the effect of pornography, where the data are flimsy, but has ignored the influence of violence in the media, where the data are more worrisome (138,139).

Corporal punishment is widely accepted in the United States, and is generally considered as discrete from child maltreatment. The Supreme Court (in *Ingraham v. Wright*, 1976) judged that schools have the right to physically punish disobedient children (140). Although this ruling partly reflects a broad view that already accepts physical punishment, it also serves to further legitimize and perpetuate the practice. In Straus and Gelles' 1985 survey, 62% of parents (in two parent homes) reported a physically violent act against their child (between 3 and 17 years of age) during the preceding year (33).

Corporal punishment can be understood as existing on a continuum, with child abuse representing the extreme (105). This relationship is supported by several cross-cultural reports demonstrating that in countries in which corporal punishment is infrequently used as a disciplinary strategy, child maltreatment is rare (141,142). The acceptance of corporal punishment in the U.S. therefore serves as a significant background factor that places high risk children and families at added jeopardy for maltreatment.

Attitudes Towards Children

Much progress has been achieved in recent decades in fostering an awareness of the rights of children, and there has been abundant rhetoric about "the nation's most valuable natural resource". At the same time, deeply rooted beliefs in the privacy of the family, and the right of parents to raise their children as they deem appropriate, persist in U.S. society.

Although Americans like to see their society as revering children, the reality suggests otherwise. Generally, work with children, such as in day care centers or the juvenile justice system, has low status and is poorly remunerated (17). In recent years, the Federal government has dramatically increased funding for military projects while cutting resources for children and needy families (143,144).

Government policies and programs can either support families to adequately nurture their children, or directly and indirectly contribute towards the ecology of child maltreatment. Two specific factors that research has shown to be associated with child maltreatment are poverty and unemployment.

Poverty

The National Academy of Sciences concluded in their report that the principle threat to family life is impoverishment (145). Garbarino has concluded that "economic deprivation is the principle deleterious influence, of course, but it is the 'social impoverishment' it produces that concerns us most" (146).

The disproportionate number of lowest socioeconomic families recorded in the incidence data of reported abuse cases, is a controversial phenomenon. In 1984, 48% of families reported to state agencies for child maltreatment were receiving public assistance (32). It has been suggested that professionals are biased against poor and minority groups, and that this bias is responsible for the increased identification and reporting of poor families (12,13,14). Maltreatment may therefore be under-reported in middle and upper classes, and there may be no association between poverty and maltreatment, but only with reported maltreatment.

Straus et al's national survey of how conflicts were resolved in families not identified for maltreatment, argues otherwise (34). They found that the poorer the families were, the higher the rate of child abuse. Poor families earning under \$5,999 a year reported twice as much violence as families earning over \$20,000. Still, there is the possibility that middle and upper income families were more reluctant to disclose their violent behavior.

Of the different forms of child maltreatment, neglect appears most strongly correlated with low socio-economic status (147). For example, in one study, 57% of the neglect group relied on public assistance, compared to 19%-27% of the other maltreating groups (57).

Since one out of five American children live in poverty (143), it is of major significance that poverty has a direct and indirect impact on abuse. The direct impact is by allowing children to go hungry, by exposing children to unhealthy and dangerous environments, and by the stress imposed on parents and families as they struggle to cope with their daily burdens. More indirect are the psychological effects of frustrated hopes, poor schooling, and stunted growth and development.

It appears reasonable to conclude that while a proportion of poor people are unfairly reported for maltreatment (and some middle and upper class families go undetected), there exists an important association between poverty and child maltreatment (148). Nevertheless, most poor people do not abuse their children.

Unemployment

In his reanalysis of Gil's data, Light found unemployment to be the most powerful predictor of child maltreatment (118). A number of studies have documented an association between areas with high unemployment rates and an increased incidence in child maltreatment (149,150,151). These findings are supported by Steinberg et al's longitudinal study, which tested whether undesirable economic change led to child maltreatment (152). In this study, cross-correlational analyses of data over a 30 month period revealed an increase in child abuse, following periods of high job loss, and this finding was replicated in two metropolitan communities.

Straus et al found the association between unemployment and maltreatment was strongest for fathers (34). Interestingly, the highest rate of reported violence was by men working part-time, who possibly were more frustrated than the totally discouraged unemployed.

RISK FACTORS FOR CHILD SEXUAL ABUSE

The etiological underpinnings of sexual abuse are different from other forms of child maltreatment, although considerable overlap exists. Again, several interacting contributory factors are responsible, rather than single causes. This section is largely derived from Finkelhor's recent book (8).

The Individual Level

Sex of Child. In Finkelhor's analysis of eight random sample community surveys (8), women were 2.5 times as likely as men to report that they had been sexually abused as children (153-160). This corresponds to 71% of sexually abused children being girls and 29% boys. These findings are similar to those of the incidence studies described earlier that identified approximately 5 girls for every boy (31,32).

Critics have suggested that the sexual abuse of boys remains substantially underreported (161,162). Reasons cited include male reluctance to admit victimization, surveys that fail to address specifically the abuse of boys, and a public focus on female victims that has led parents and professionals to be less likely to identify abused boys. Although the precise ratio is uncertain, available data strongly suggest an increased risk to girls.

Age of Child. Finkelhor has reviewed studies that examined the age of onset of abuse in girls and found the mean or median age of onset to consistently be between 10

and 11 years (153-156). When the risk for each year of age was calculated, a substantial increase occurred at 6 years with an estimated risk of 1.49% (i.e. 1.49 per 100 six-year-old girls are abused), and again at age 10 with a risk of 3.76%. For girls between 10 and 12 years of age, the risk of being victimized is more than double the average rate of girls between 1 and 18 years. Children under 6 years are consistently found to have far lower rates (for example, 0.36% for 3 year olds). These data are based on retrospective surveys, and Finkelhor raises the possibility that early sexual abuse experiences may not have been understood as such by the young child, or forgotten, or repressed.

The National Incidence Study that examined identified cases of sexual abuse found 60% of the children were 12 or older (31). However, the age at onset was not examined, and several years can elapse before the abuse is reported. Therefore this finding supports other data indicating that girls are at highest risk for the onset of abuse between the ages of 10 and 12 years.

Adult Propensity for Sexual Involvement With A Child. Finkelhor's review of the literature includes the theories proposed for why adults become sexually interested in and involved with children. Araji and Finkelhor have grouped these theories into four categories (8).

Emotional Congruence. This term reflects the "fit" between the adult's psychological needs and characteristics of children. An example is the effort by the sex abuser to overcome the effects of his own abuse as a child. By victimizing a child, they reverse the roles of their own victimization, and so fight their powerlessness with a sense of power (163, 164).

Sexual Arousal. This theory contends that early sexual experiences with other children condition them to continue to find children arousing when they are adults (165). Finkelhor cites as an example the work of Freund and colleagues, who investigated penile responses to slides of female and male, children and adults (166, 167). Child molesters were significantly more aroused by the slides of the children, than were the two control groups.

Blockage. This theory suggests that adults who are blocked in their ability to achieve satisfying sexual relationship with adults, instead may orient toward children. A number of studies using standardized measures have found child molesters to be introverted, shy, lonely and depressed (168, 169), which has been interpreted to reflect limited social skills and confidence.

Disinhibition. This theory is concerned with why some adults are not inhibited by the taboo of having sex with children. Rather than been understood as causal, this theory suggests that something removes the inhibitions against pedophilic impulses. An example is the frequent association with alcoholism (170).

Research Results. Finkelhor concludes that while there is no shortage of explanatory theories, empirical research reveals the following findings:

1. Sexual abusers show increased sexual arousal toward children, although it is unclear why this is so.
2. Sexual abusers are often blocked in their social and sexual relationships with adults.
3. Alcohol appears to frequently be a disinhibiting factor.

4. The idea of "emotional congruence" is demonstrated by a study where pedophiles were attracted to children, because they could easily dominate them.
5. A proportion of sexual abusers were themselves abused as children, according to studies of incarcerated male offenders.

Rather than seeing these theories as separate and competing, it is evident that frequently they coexist and interact. Current knowledge has been limited by a focus on single etiological theories that cannot be applied to all sexual abusers, and that alone do not fully explain instances of sexual abuse.

Family Level

Parental Absence and Unavailability. Finkelhor's review lists several studies that reported an increased rate of sexual abuse among women who lived without their natural mothers or fathers at sometime during childhood (155, 171, 172). This could be partly explained by the fact that abused children are commonly removed from their homes, although sexual abuse was seldom identified at the time when study subjects were children. Support is given to the importance of parental unavailability by the association of sexual abuse with mother's employment outside the home, reported by several studies (172, 173, 174). In addition, higher rates of sexual abuse have been associated with having a disabled or chronically ill parent (155).

Poor Relationship With Parents. An impressive correlation between sexual abuse and a poor relationship with one's parents has been a consistently significant finding (155, 174, 175). While this has usually been found with mother-child relationships, one study found a lack of closeness with fathers. Given the retrospective study designs, the ubiquitous question of cause or effect arises.

Conflict Between Parents. The research has consistently reported poor relationships between the parents of sexually abused children (155, 173, 175). The findings on parental absence, poor relationships with parents and conflicts between parents add up to disturbed relationships between sexually abused girls and their parents. Finkelhor cautions that a girl who is abused by her father might perceive her parents to have an unhappy relationship. In addition, the alienation from the family might be the result, rather than a cause, of abuse.

Stepfather Families. Finkelhor's review showed four of six studies finding the presence of a non-biologically related father to be a significant risk factor for abuse (161, 172, 175, 176). Two studies specifically demonstrated an increased risk, in addition to simply the absence of father (155, 156). Russell's work is cited, where 2.3% of daughters growing up with biological fathers had been abused by them, compared to 17% of girls growing up with stepfathers (172). In addition, the nature of the abuse from stepfathers was more severe (more intercourse, fellatio, cunnilingus, and anal intercourse), and more violent.

Community Level

Social Isolation. A number of studies have found sexual abuse victims to be isolated from their peers (155, 173, 174). Isolation was reflected in having two or fewer friends at age 12, or lacking closeness with peers or siblings. It is unclear, however, whether this social isolation represents a cause or an effect of the sexual abuse.

No consistent significant differences have been found between rural and urban settings.

Societal Level

Social Class. Unlike other forms of child maltreatment, social class is not considered to be a significant factor for sexual abuse. Representative community surveys have not detected an association between child sexual abuse and socio-economic status (153, 156, 157).

In contrast, the incidence studies report a significant disproportion of poor families among identified cases. This probably reflects a bias in identification and reporting, rather than the true distribution of sexual abuse.

Ethnicity. Studies have consistently found similar rates of sexual abuse for Blacks and Whites (31,157,172,159,174). Two studies reported higher rates of victimization for Hispanic girls (172,174), and Russell (172) found lower rates of incest among Asian and Jewish girls (8 and 10% respectively).

V. MANIFESTATIONS, EFFECTS AND COSTS OF CHILD MALTREATMENT

There is no typical abused child. There is also no direct relationship between one form of abuse and specific developmental outcomes, since an array of individual and environmental factors account for the varying effects of abuse on children. Despite a variability of outcomes, the effects of abuse are clearly negative.

Although many follow-up studies of abused children have found an increased incidence of social and emotional problems, frequently it is difficult to discern whether these characteristics were antecedent or consequent to the maltreatment. This review will focus on findings from research that employed reasonably stringent methodological standards in examining the manifestations and effects of child maltreatment.

Table 2 summarizes the different types of maltreatment experienced by 304,993 children in 1984 (32). This is based on case reports from 16 states, constituting 41% of the U.S. child population, and the total exceeds 100% because some children experienced more than one type of maltreatment.

TABLE 2. Reported Maltreatment in 1984

<u>Type of Maltreatment</u>	<u>Percent of Children Reported for Maltreatment</u>
Major Physical Injury	3.3
Minor Physical Injury	17.7
Unspecified Physical Injury	3.6
Sexual Maltreatment	13.3
Deprivation of Necessities	54.6
Emotional Maltreatment	11.2
Other Maltreatment	9.6

Source: American Humane Association, "Highlights of Official Child Abuse and Neglect Reports - 1984" (32).

Physical injuries considered minor were: minor cuts, bruises, welts, twisting and shaking injuries. The majority of other injuries, (e.g., fractures, burns, severe cuts) were coded as major. Sexual maltreatment included: incest, "exploitation", rape, intercourse, and "molestation". Deprivation of necessities included: neglecting to provide nourishment, shelter, clothing, health care; failure to thrive; lack of supervision; and educational neglect. Emotional maltreatment consisted of emotional abuse and neglect.

Children with major physical injuries were an average age of 5.3 years old; the majority (54%) were males; 58% were White, 22% Black, 11% Hispanic, and 10% "other". The great majority (83%) of these children were maltreated by a parent. Twenty-eight percent were in single female headed families, and 37% had parents or other caretakers who were unemployed. Nineteen percent had associated minor physical injuries and 17% were found to have deprivation of necessities.

Children with minor physical injuries averaged 8 years of age; just over half (51%) were males; 64% were White, 19% Black, 14% Hispanic and 3% "other". Eighty-three percent were maltreated by a parent, 26% lived in a single female headed family, and 27% had caretakers who were unemployed. Nine percent were found to have deprivation of necessities, and there was infrequent association with other types of maltreatment.

Sexually maltreated children averaged 9.3 years of age. In contrast to the other groups, most (78%), were females. Seventy-five percent were White, 13% were Black, 9% were Hispanic, and 3% were "other". Fifty-six percent were abused by a parent, 19% by a relative other than a parent, 26% by "other"; 25% lived in single female headed households; and 28% had caretakers who were unemployed. Of the other types of maltreatment, deprivation of necessities was the only one that was associated with sexual abuse, but only in 8% of cases.

Emotionally maltreated children had an average age of 8 years. Fifty-two percent were females; and 71% were White, 13% Black, 13% Hispanic, and 3% "other". Ninety percent were maltreated by a parent, 36% lived in single female headed families, and 35% had a caretaker who was unemployed. Once again, the only other type of maltreatment that was substantially associated with emotional maltreatment was deprivation of necessities (24%).

Neglected children had an average age of 6.4 years, and 52% were males. Sixty-three percent were White, 23% Black, 13% Hispanic and 2.2% "other". Almost all (91%) of the children were maltreated by a parent, 51% lived in single female headed families, and 43% had a caretaker who was unemployed.

Medical Consequences

As the conception of child maltreatment has been broadened from the "battered child syndrome", a wider range of medical conditions is being seen. In fact, many maltreated children have no overt evidence of physical injury; for example, in the American Humane Association (1986) data, three-quarters of the reported children had no injuries (32). At the same time, as medical expertise and sophistication increases in this field, more subtle injuries are being diagnosed, particularly in sexual abuse (177, 178, 179).

Generally, bruises will fade, welts will resolve, burns and lacerations will heal. However, these last two injuries can require a wide range of medical care ranging from first aid measures at home, to sutures in an emergency room, to a lengthy intensive care stay in a burn unit. Depending on the location and severity of the injury, permanent disfigurement and impairment might result. Fractures, while usually having a favorable prognosis, are often incapacitating while they heal. Complicated fractures can lead to permanent disabilities.

The greatest morbidity and mortality associated with child maltreatment are injuries to the central nervous system, resulting in such ramifications of brain damage as mental retardation, seizures, cerebral palsy, visual and hearing impairments, and learning disabilities. In many cases, these disabilities will be permanent. In addition to the deficits in learning, thinking, attending and perceiving that may result from injury to the developing brain, psychological problems may result from the organic damage.

Almost any traumatic injury can be the result of maltreatment (180). This includes, for example, injuries to the eyes, fractures of the teeth, and rupture of an abdominal organ. Between 3,000-5,000 children are believed to die from maltreatment each year in the U.S. (181). This is only a crude estimate because maltreatment has not always been diagnosed; the circumstances are often ambiguous, and death certificates do not reliably list the complete cause of death.

Deleterious medical effects can also be the result of neglect. Abused children have been found to have poorer medical care with more frequent lapses, such as in their immunizations, than a comparison group (182). Ingestions of poisonous substances has been associated with family dysfunction and a lack of supervision (183, 184). Several researchers have documented more illness in abused children (57, 60, 185), although this might be a causal factor for rather than a consequence of maltreatment.

Some children with non-organic failure to thrive have been neglected by their parents. Non-organic failure to thrive is a condition usually seen in young children (under 3 years), where deficient growth and stunting results from a problematic psychosocial situation. Difficulties in the parent-child relationship and interaction are generally at the heart of this problem. Researchers have found that 30-50% of children identified as abused have growth deficiencies (124, 186, 187). The phenomenon of failure to thrive has been associated with deleterious growth, cognitive, and psychosocial outcomes (188, 189, 190).

Psychosocial Effects

Research on the psychosocial effects of child maltreatment has typically been done on small samples, without appropriately matched comparison groups, and employing unsatisfactory assessment measures. Despite these methodological limitations, there is considerable evidence of substantial deficits in socioemotional development of abused children. Most studies reveal a wide range of developmental outcomes, which is to be expected given the immense heterogeneity within a population of maltreated children. In addition, several variables that influence the effect of maltreatment have been identified (191).

Age. Younger age at the time of abuse has been associated with greater emotional problems (192, 193).

Frequency of abuse. Repetitive abuse over a protracted period of time has been associated with more emotional problems compared to isolated incidents of abuse (193, 194).

Severity of abuse. Children who have been severely punished and abused have manifested an increased rate of behavioral and psychosocial difficulties (193, 195).

Home environment. A range of problems has been found in children subjected to frequent moves, whose home situations lacked stability (193, 195, 196).

Emotional stability of caretaker. Children whose caretakers were emotionally disturbed have been found to have an increased incidence of psychiatric symptoms (193, 195).

A small but well matched longitudinal study was conducted by Elmer (197). Seventeen abused children and 17 accident victims were matched for age, race, sex, and socioeconomic status, and each group was matched with an untraumatized group. The children were first studied as infants, and again 8 years later. The entire sample including the comparison group, was found to have substantial problems: 70% had speech problems, 50% showed "some degree of disturbance", 39% were doing poorly in school, and most of the children appeared sad and afraid of personal attack. However, these findings were distributed similarly among groups and no significant differences were

found between the groups. Mothers in all the groups reported high levels of personal and environmental violence. Elmer concluded that the effects on child development of low socioeconomic status may be as powerful as abuse.

Although this is a landmark study in the field, it had several limitations: the sample size was small, neglect cases were not included, no behavioral observations were done, and possible abuse or neglect in the comparison groups were not rigorously excluded. While poverty is known to exert a powerful and negative effect on a child's psychosocial development (145), this study did not demonstrate additional ill effects due to maltreatment.

Aggression. George and Main compared 10 abused toddlers with 10 matched comparison children and found the former were significantly more aggressive towards both peers and daycare staff, and exhibited less open and approaching behavior toward staff, and more avoidant behavior towards peers and staff (198). Unfortunately the behavioral observers knew which children had been abused, which may have influenced their ratings. Egeland and Sroufe conducted a prospective study, following 200 families from the third trimester of the pregnancy for five years (199). In their group of physically abused children, they found significant increases at 2 years of age in aggressive behavior, anger and frustration directed toward their mothers, and non-compliance. Several other studies reveal similar findings (192, 196, 200). Interestingly, neglected children appear to occupy an intermediate position between abused and comparison groups in terms of their aggressive behavior.

Abused children do not always direct their aggression against others. Green compared 59 abused children with 30 neglected and 30 "normal" children who were not maltreated (201). Of the abused children, 41% had committed a self-destructive act: 5 attempted suicide, 12 self-mutilated, 2 made suicide gestures, and 5 expressed thoughts about suicide. In comparison, only 17% of the neglected children and 7% of the "normals" had such histories.

Self-concept. Several studies that have examined self-concept found that abused children tended to manifest a general air of depression and sadness (193, 195, 199, 202). Kinard found that abused children also perceive themselves as unpopular and poorly behaved (203).

Relationships With Peers and Adults. Abused children have significant problems in their interaction with both peers and adults (195, 200, 203). Both aggression toward and avoidance of peers are reported (195, 200). Another study reported that 70% of their sample of abused children had problematic peer interactions, 57% had difficulties with adults, 52% had difficulty giving and receiving affection, and 47% were impaired in their capacity to show feelings to their parents (204).

Egeland and Sroufe examined attachment in their prospective study of abused children at 12 and 18 months of age, using the Ainsworth Strange Situations measure (205). The results are presented in Table 3. Group B consists of infants who are securely attached; they feel comfortable exploring the environment and actively greet or seek contact with their mothers in reunion episodes. There are two groups of anxiously attached infants. Group A infants are anxious and avoidant. They explore without referring back to their mother, behave similarly toward mother and stranger, and upon reunion actively avoid the mother. Anxious and resistant infants constitute Group C. These infants are distressed by the unfamiliar, even when their mothers are with them. They explore little and cling to their mothers.

TABLE 3. Attachment Patterns in Maltreated and Comparison Infants

	12 months			18 months		
	A	B	C	A	B	C
<u>Physically abused children</u>	55%	27%	18%	48%	33%	19%
<u>Control group</u>	18%	67%	15%	16%	71%	13%

Source: Egeland and Sroufe, (1981)

At one year and at 18 months, abused infants were significantly less securely and more anxiously attached than the control group. These findings are supported by several other studies (193, 202, 203, 205). The establishment of secure attachment in infancy is considered to be of key importance in learning to feel comfortable and trusting of the surrounding world, with ramifications for the later development of trust and interpersonal relationships. Ainsworth has suggested that attachment theory be applied to develop instruments for identifying child maltreatment (206).

Kinnard has suggested that abused children have an impaired ability to develop a sense of trust in others (203). Green has observed this to be a common problem in treating abused children in a clinic population (192).

Behavioral Problems

Oates administered Rutter's behavior questionnaire to the teachers of 38 children who had been abused an average of 5.5 years earlier and 38 comparison children (207). The teachers did not know which children had been abused. Fifty-five percent of the abused children received abnormal scores, compared with 18% in the comparison group. The types of problems are shown in Table 4.

TABLE 4. Frequency of Behavior Problems in Abused Children and a Comparison Group

<u>Behavioral category</u> <u>group</u>	<u>Abuse group</u>	<u>Comparison</u>
Normal	45%	81%
Antisocial	34%	13%
Neurotic	16%	3%
Undifferentiated	5%	3%

Source: Oates, et al., (1984)

The significantly increased rate of behavior problems in the abused children is supported by a study based on parental assessments of their child's behavior (208). Abused children were found to have more of the following behavioral characteristics than a comparison group: anxious/obsessive, depressed/withdrawn, hyperactive, delinquent, aggressive, total internalizing, and total externalizing. These findings are supported by another well designed study (209). The authors note, however, that the wide range of behavior problems in the abused children were similar to those displayed by nonabused children from distressed families. This is important, because the majority of behavior problems found in maltreated children are not uniquely specific to maltreatment.

Long Term Effects of Child Maltreatment

A remarkable 40 year longitudinal study followed the lives of 232 males who were raised in eastern Massachusetts, since they were between 5 and 9 years old (210). Extensive information was gathered from their elementary school teachers and assessments made by social workers who visited their homes twice a month for five and a half years. A typology of four situations based on these data was developed: neglected, abused, rejected, and loved. The groups differed in their background in a number of important ways; for example, 62% of the "rejected" boys were in the lowest socioeconomic class compared to 39% of those who were abused. Later information was based on court, mental hospital and clinic records, death records, and a questionnaire mailed to the 98% of the sample who were successfully traced.

One in five of the abused and neglected children had been convicted of a serious juvenile crime and rejected children had an even higher rate (29%), in contrast to 7% of boys from "loving" families. The association between parental rejection and juvenile delinquency has been reported in another study (211). Of the juvenile delinquents, 41% were later convicted for adult crimes. Forty-four of the 97 neglected or abused children had become criminal, alcoholic, mentally ill or had died before reaching 53 years of age. There were no significant differences among the groups in terms of occupational status, marital status, alcoholism, and the use of physical punishment on their children.

Cognitive Deficits

A number of studies have demonstrated decreased intelligence or IQ scores in maltreated children. Sandgrund, Gaines, and Green compared the IQ's of 60 abused, 30 neglected and 30 non-abused controls between 5 and 12 years of age from low SES backgrounds (212). The abused and neglected groups scored similarly, with significantly lower verbal and performance IQ scores than the controls. Another study administered 3 tests of cognitive functioning to 42 children who had been abused or neglected and 42 comparison children (209). On all three measures, the abused and neglected children scored similarly to each other and significantly lower than did controls. Both teachers and parents rated the control group as more socially mature and ready to learn than their maltreated peers. Friedrich et al compared eleven physically abused preschoolers to a matched comparison group using the McCarthy Scales of Children's Abilities and the Wide Range Achievement Test (213). Abused children scored significantly worse on the Verbal and Memory Scales and the General Cognitive Index of the McCarthy.

Oates compared 56 previously abused children with a comparison group using the Denver Developmental Screening Test (214). Abused children were significantly delayed in all areas, but particularly in their language development. In a later study, Oates assessed the cognitive abilities of 39 children who had been abused an average of 5.5 years earlier and those of a comparison group (207). Abused children performed significantly more poorly on the Wechsler Intelligence Scale, and were more delayed in their language and reading abilities. Another study followed up abused children and their siblings (215). Fifty-nine percent of those who had been abused showed developmental delays, compared to 33% of their siblings.

In summary, the outlook for maltreated children is discouraging. While some children appear to be invulnerable, and on most measures there is a wide range of outcomes, research findings and clinical experience attest to significant physical, cognitive and socioemotional harm. There is little comfort in observing that some

studies found few differences between maltreated children and those from violent and similarly impoverished neighborhoods (197), or from distressed families involved with child welfare agencies (208).

EFFECTS OF CHILD SEXUAL ABUSE

This section is a summary of the excellent recent review by Browne and Finkelhor on the sequelae of child sexual abuse (216). Relatively little research has been done on sexually abused boys, so their review is confined to females.

Research on sexual abuse uses two main types of sample populations. One is the community or non-clinical sample, where subjects are randomly selected and no health problem or history of abuse has been previously identified by the researchers. The other type of sample is clinic-based, where subjects are receiving a health related or social service. The latter group represents a subset of the abused population, for whom a problem has been recognized for which they are receiving professional help. This difference between study samples is an important factor in interpreting findings.

Initial Effects

Initial effects are arbitrarily defined as outcomes manifesting within two years of the abuse. Only a few good empirical studies have been done of the initial effects, using reliable and valid objective measures, in large and representative samples of sexually abused children. Given these limitations, the best available data to date are presented.

Negative Emotional Effects. One study that used well validated measures with published norms found that 17% of 4-6 year old sexually abused children had "clinically significant pathology", and 40% of 7-13 year olds scored in the seriously disturbed range (217). This study noted the commonly observed effect of fear; 45% of the 7-13 year olds manifested severe fears, compared to 13% of the 4-6 year olds. Anger and hostility were observed in about half of the 7-13 year olds, and about 15% of the 4-6 year olds scored above the norms for aggression and antisocial behavior. Other negative emotional effects that have been described in other studies include guilt and shame (218), depression (219) and low self-esteem (218), although this last characteristic was not confirmed in the Tufts University study (217).

Physical Consequences. Until recently, it was thought that only a small minority of sexually abused children had any observable injury or sign of infection. While infection and major physical trauma are relatively infrequent occurrences, physicians are now finding that up to 80% of abused children who are brought for forensic evaluations, have signs of minor trauma, such as stretching and disruption of the hymen, redness around the anus, and small scars in the genital area (177, 178, 179). In most instances, these injuries cause acute pain and discomfort, but they seldom will result in long term significant physical disfigurement or dysfunction. Psychosomatic manifestation of distress have included sleep and eating disturbances (219), although comparative data are lacking. Pregnancy rates have ranged from 2% to 11% (218, 220).

Sexuality. Two studies using standardized measures found abused children to have significantly increased rates of sexual problems, such as excessive sexual curiosity and frequent exposure of the genitals, especially by younger girls and older boys (217, 221).

Social Functioning. School difficulties, truancy, running away from home and early marriages to escape their abusive family predicaments have been described (219, 220, 222).

Long-Term Effects

Depression and Self-destructive Behavior. Most studies indicate that depression is an important symptom among women who were molested as children. This has been amply demonstrated in studies based on community samples (174, 223), and in other non-clinical populations (224, 225), but not in clinical studies (226, 227). The lack of a difference in the clinical groups is probably explained by depression being common BOTH in the abused group and in the nonabused client population.

Self-destructive behavior appears to be another outcome of child sexual abuse, seen in both clinical and non-clinical populations (223, 224, 227). This has manifested as suicidal fantasies and suicide attempts.

Somatic Disturbances. A variety of symptoms reflecting underlying anxiety or tension have been described as long-term effects, including: anxiety attacks (54% vs 28% in the comparison group), nightmares (54% vs 23%), and sleeping problems (72% vs 55%) (227). Similar findings are reported in other studies (223, 225). An association with subsequent eating disorders, such as anorexia and bulimia, has also been described (228).

Self-esteem. Clinical experience and empirical research have found women who were sexually abused as children, and especially victims of incest, to have diminished self-esteem (223, 226). This is consistent with the responsibility and guilt that victimized children often feel.

Interpersonal Relationships. Fear and hostility towards men and women, enduring rage towards their parents, and discomfort with their own children, all appear to be prevalent among women who were abused as children (220, 226, 227). Another negative consequence of abuse is the susceptibility of these women to become involved in a pattern of abusive relationships. An increased likelihood of rape and abuse by husbands or other adult partners has been found (172, 227). For example, Brier found that 49% of a clinical sexual abuse group had been battered in adult relationships, compared to 18% of the nonvictim group.

Sexuality. Difficulties associated with adult sexual functioning are commonly described in clinically based studies. Between 45% and 87% of abused women report problematic sexual adjustment compared to around 20% in comparison groups (220, 226, 227). Similar difficulties were found in two non-clinical samples (28, 229), while one such study on younger women did not (173). Sexual problems described include an inability to relax and enjoy sexual activity, an avoidance of or abstention from sex, and sexual guilt. Increased sexual activity, often termed promiscuity, has also been noted (220, 226), although Fromuth found this to be more a self-perception rather than actual behavior (173). Little association with subsequent homosexuality has been found (173, 220).

Effects On Social Functioning. Studies of prostitutes indicate that 55-60% of them were sexually abused as children (230, 231). However, another study found 37% of a comparison group of non-prostitutes matched on age, race, and education had been abused, compared to 45% of the prostitutes (232).

A significant increase in substance abuse has been found in victimized women, both in community and clinical samples (176, 226). No difference, however, was noted in a sample of college women, who reported little substance abuse (224).

COSTS OF CHILD MALTREATMENT.

A recent Federal demonstration project that involved 975 maltreated found the following frequencies of problems associated with child maltreatment (10). Unfortunately, no normative data were evaluated, making it impossible to determine the extent to which these problems can be attributed to child maltreatment.

- o A national incidence rate of 11.8 substantiated child abuse reports per 1000 children under 18 in 1983.
- o Approximately 30% experienced chronic health problems.
- o Approximately 30% experienced some type of cognitive or language disorder.
- o Over 50% experienced such socioemotional problems as low self-esteem, lack of trust, a low frustration tolerance, and poor relationships with their parents.
- o Approximately 14% exhibited self-mutilative or other self-destructive behaviors.
- o Over 50% had difficulty in school, including poor attendance and misconduct.
- o Over 22% had learning disorders requiring special education services.

In addition to the above consequences of maltreatment, research suggests the following potential long-term problems: increased drug or alcohol dependency; increased rates of status offenses, as well as juvenile delinquency and adult criminal behavior; and perhaps most significantly, perpetuating a cycle of violence by becoming abusive parents. It is apparent that these ramifications lead to substantial public health, rehabilitation, criminal justice and child welfare expenditures.

Daro has estimated the costs attached to some of the deleterious outcomes listed above, but not for the majority of long-term problems (10). The American Humane Association estimated that 23,648 children experienced serious physical injury due to maltreatment in 1983. Assuming that half of these children required hospitalization for 5.2 days, the mean length of stay for children with fractures, the inpatient medical costs would exceed \$20 million. Seven million dollars for rehabilitation and special education services, is the estimated cost for the year following the maltreatment report. Aside from its frequently devastating effect on families and questionable benefit to the children it purports to serve (233, 234, 235), the foster care system is very expensive. Daro has estimated costs of \$1.9 billion for the first year of care for abused and neglected children, and \$27 billion for long-term foster care. These estimates appear too high as they were based on 75% of substantiated cases receiving foster care. Recent statistics indicate that this is so far approximately 18% of cases. Still, 25% of Daro's estimates amount to substantial costs.

In an assessment of adolescent maltreatment victims, Daro estimates that if they have a 20% delinquency rate, \$14.8 million would be the cost for these youth to spend an average of two years in a correctional facility. Many of the long-term sequelae could impact on subsequent earning capacity and productivity. Daro suggests that "assuming that such losses would be experienced only by those children who suffered severe injuries as a result of maltreatment, and that such impairments are limited to 5% or 10% of the child's total potential earnings, some \$658 million to \$1.3 billion in lost productivity might result because of early battering or severe neglect". In addition to compelling humanitarian concerns, there is therefore a strong fiscal incentive to protect children and insure their optimal productivity in later years.

These estimates are very crude; assessing the effects of child maltreatment per se, excluding the influence of contributory factors, is inherently difficult. Estimating the economic costs associated with treatment is particularly difficult, because of the estimate the costs involved.

This chapter has described the enormous financial and human costs associated with child maltreatment. The next question is, what can be done to prevent this.

VI. PRIMARY, SECONDARY AND TERTIARY PREVENTIVE PROGRAMS

The financial and human costs resulting from child maltreatment, although crudely estimated, are certainly staggering (10). Consequently, increasing efforts have been made to develop a wide assortment of prevention programs. These programs employ a variety of strategies aimed at enhancing family functioning and diminishing the likelihood of child maltreatment. This section will offer an overview of preventive interventions, without detailing the specific aspects of particular programs. Greater detail is available in reports such as Programs that Work: Evidence of Primary Prevention of Child Abuse (130), and Child Abuse Prevention Project Profiles (236), which contain summary descriptions of exemplary programs. The issues of program evaluation and cost-effectiveness will be addressed in the subsequent section.

Prevention strategies are frequently classified as being primary, secondary, or tertiary. Primary prevention targets a sample of the general population, for example, an announcement on television or a program administered to all school children in a district. Secondary prevention focuses on specific subsets of the population, who are thought to be at high risk for the condition one is aiming to prevent. For child maltreatment, such groups typically include poor, single mothers, or families with a new infant. Tertiary prevention involves situations where child maltreatment has already occurred, and the goal is to decrease the recidivism and improve outcomes by offering treatment and rehabilitative services.

Primary Prevention

Most social services in the United States only become available once the situation has already gotten to be desperate, such as after abuse occurs. Even for families in those circumstances, services are seriously limited, and few resources are available for those considered "not bad enough". Accordingly, interventions are applied at a late stage, and little true primary prevention exists.

Aside from specific programs, there are a number of activities at the state and Federal levels that probably have a primary preventive role. For example, several states have legislation that bans the use of corporal punishment in their schools. The Federal Aid to Families with Dependent Children and Women, Infants and Children nutrition programs are further examples of how children can gain a measure of protection.

It is evident from what is known about the etiology of child maltreatment that the overall condition of family life is the crucial issue. While health professionals, social service agencies and community programs can make a valuable contribution, the problems of poverty, unemployment, and inadequate housing remain. This is the domain of the Federal and state governments; a coherent and comprehensive strategy for enhancing the functioning of American families is sorely needed.

Preventing Sexual Abuse. Conte, Rosen, and Saperstein (237) and Finkelhor (8) have summarized the key components of prevention efforts in child sexual abuse.

Programs, mostly implemented in the school systems, have focused on teaching children about sexual abuse in general, how to recognize abusive situations, and how to respond assertively. It is now recognized that a quarter to a third of sexually abused children are boys, so that prevention education is usually conducted in mixed classrooms. The length of programs ranges from a single half hour session to a curriculum of 38 sessions. Booster training sessions appear to enhance the retention of knowledge about prevention.

Training is conducted by teachers, police officers, rape crisis counselors, mental health professionals and community volunteers. It is unclear what difference the occupation of the trainer makes. There is considerable variability in the preparation of trainers, and in the content of the programs. There appears to be a need for improved education on sexual abuse of professionals interacting with children, but particularly of those who will be responsible for teaching children about abuse.

Programs also vary in the number and types of maltreatment experiences they cover. The range extends from overt sexual abuse to general safety measures. Conte has found that specific concrete content is more easily grasped than abstract ideas by young children. Interventions are commonly based on the following concepts delineated by Conte, Saperstein and Rosen (237):

- a. Children have a right to control access to their own bodies and to decide who will and will not touch what parts of their bodies.
- b. Different types of touching can be seen as existing on a continuum and children are taught to discriminate between "O.K." and "not O.K." touch.
- c. Children should be encouraged to "trust their feelings", and to act when they sense something is wrong.
- d. Children are taught to say "No", assertively.
- e. Children are instructed to tell a trusted adult if they think they are being abused, rather than keeping it secret.

There are a variety of prevention materials available. Films, such as "Bubylonian Encounter", teach children the difference between appropriate and forced sexual touching, by telling the story of an alien who lands on earth in a bubble. He is freed by two children who then tell him all about touching, which is a new sensory experience for the alien. Other materials include videotapes, audiotapes, printed matter, coloring books and anatomically correct dolls. The effectiveness of these different materials has not been evaluated. While some programs use a single medium (e.g., a play), many employ a multimedia approach.

Programs in this category tend to be multifaceted. A good example is the "Child Assault Protection Program" in Columbus, Ohio, where children are taught self-defense skills, and participate in role playing on how to recognize and respond to potentially dangerous situations. In addition, parents have a session on sexual abuse in general, prevention strategies, and ways to communicate with their children. Another example is "We Help Ourselves", in Dallas, Texas, which has five curricula for the different developmental levels of pre-schoolers to twelfth graders. Videotapes, puppets, printed handouts, and teacher packets for group discussion and role playing are used.

In addition to strategies that focus specifically on preventing abuse, more general related skills appear to be important. A number of school systems and community centers offer "life skills training," which imparts relevant skills and knowledge to children, adolescents, and young adults. Subjects covered include: child development, family and life management, parenting, self-development and self-actualization, and methods of seeking help. Education in sexuality and pregnancy prevention is especially important for adolescents.

Community Services. Communities provide a variety of services that have a primary preventive role. One format is public information and education on child maltreatment prevention. Public awareness campaigns convey to parents that "parenting can be rough" and that "it's O.K. to get help". Typically, information on local resources is then given. Media announcements have been used, with sports stars and other celebrities, to maximize their impact.

Another example of community services is a parental stress hot line, which anyone in a difficult parenting situation can call, usually at anytime, and receive counselling. In addition, referrals are made when further ongoing services appear necessary.

Secondary Prevention

Most interventions aimed at preventing physical and psychological maltreatment fall into the category of secondary prevention. These interventions are based on knowledge and assumptions concerning risk factors for child maltreatment, and they target groups considered to be "high risk", such as teenage mothers or poor and single parent families. The goals are to enhance parenting capabilities and family functioning, and thereby enable families to more adequately protect and nurture their children. While some programs are narrowly focused, others are broadly based. An example of the former is an intervention that works on enhancing the parent's self-esteem and competency around parenting issues, such as individual psychotherapy or a parent group. Broadly based programs address several risk factors concurrently, following the ecological model.

Programs For Teenage Parents.

Goals: Programs aim to address the multiple problems of teen parents: poverty, inadequate nutrition and health care, halted education, developmental delays and inadequate parenting skills. These programs also attempt to strengthen the parent-infant relationship and to foster the infant's development.

Participants: Most programs enroll teen mothers around the time of delivery so that the intervention begins in the post-partum period. Some programs have managed to begin during the prenatal period, and a few programs have succeeded in including fathers.

Content: Services are offered at home, in program centers, and elsewhere. These include: parenting education, emotional support and counselling, job training and employment services, a drop-in learning center for infants and toddlers, and a home visitors program. In addition, there are special workshops and interest groups, recreational activities, group meetings, meals, leaflets, free day care, and field trips. Most programs include several of these activities/resources.

Length of the program: This ranges from a curriculum lasting 20 weeks to an open period, as long as the parent has a child between 0-3 years of age. The intensity of programs also varies from a single weekly session to around 10 hours per week involvement.

Training format: Again, a wide variety exists. Some have rather informal and flexible arrangements with a "Big Sister" or "Best Friend", while others have regular group meetings at set times. Frequently there is a combination of arranged and "drop-in" activities available. Generally, staff are a mix of full- and part-time, lay volunteers and professionals with widely varying backgrounds and training.

Programs For Families With New Infants.

Goals: These programs aim to improve child care practices, to protect an infant's health and safety, to improve the parent's mental health, and to enhance parent-infant interaction and healthy family functioning.

Participants: While some programs focus on high risk families having their first child, others include subsequent children. Many programs begin during the prenatal period; others begin after the birth of the baby.

Content: Possible services include pre- and postnatal medical care, psychotherapy, parenting education, and perinatal support programs to enhance parent-infant bonding. These include childbirth procedures that involve both parents, rooming-in, and unlimited visiting privileges for parents with their infants. The home health visitor is being increasingly used, in association with such services as free transportation to clinics for screening of health and developmental problems. In some settings, the health visitor is a public health nurse, while in others, lay persons, often volunteers, are supervised by a nurse or an expert in early child care. Other facets of these programs are the facilitation of a social support network, and informing participants of resources available in their community.

Length of the Program: This varies from a targeted intervention around birthing, rooming-in and visitation procedures in the hospital (e.g. "Extended Post-Partum Mother Infant Contact" Program, Nashville, Tennessee) to one group that had a home health visitor for the first two years of the baby's life (128).

Parenting Programs.

Goals: Parenting programs aim to increase the parents knowledge and skills around child care, facilitate a positive perception of the child, and link the parent with appropriate resources in the community. Certain programs are targeted to parents of retarded, autistic or multiply handicapped children (for example, the Regional Intervention Program, in Nashville, Tennessee). Additional goals are to facilitate the development of motor, cognitive, language, social and self-help skills in children, to provide parents with behavior analysis and teaching skills, to increase parents' knowledge of child development, handicapping conditions, legal rights and available services, and to facilitate the development of supportive parental networks.

Participants: Programs have targeted a variety of high risk groups that qualify on the basis of any of several biological factors (e.g., prematurity, child with multiple handicaps) or psychosocial indicators (e.g., maternal depression, interactional difficulties).

Content: Again, a wide range of services might be available, including: social and emotional support, medical care, nutrition counseling, child development education and counseling, psychotherapy (individual, family, or group), parent-child "enrichment counseling", child care, infant stimulation programs, home visits with video filming (to demonstrate to parents how they respond in certain situations), transportation to the center, information and referral, parent aides, and visiting nurses.

Parents with multiply handicapped children are trained to manage behavior problems and to teach their children different skills. They also receive emotional support and guidance from a group of parents confronting similar problems. In some programs, "graduate" parents participate in the training and support of new parents with handicapped children.

Length of the Program: Some programs consist of 8-12 parenting educational sessions over a 2 to 3 month period, while others extend up to two years (e.g., MELD, in Minneapolis, Minnesota)

Early Periodic Screening, Diagnosis and Treatment (EPSDT). The health and developmental problems of children that contribute toward and result from child maltreatment were described in earlier chapters. For many poor families who are insured by Medicaid, their children are eligible for the Early Periodic Screening, Diagnosis and Treatment program funded by the Federal and state governments. This program offers regular health care to address possible physical and psychosocial problems. All eligible children, and particularly those considered to be at high risk for maltreatment, should have their physical, developmental and emotional status comprehensively and regularly evaluated; treatment should be arranged when necessary. In most states, however, only a moderate proportion of children who are eligible for the EPSDT program actually receive this service (238). In addition, the focus is primarily on physical health, and generally less attention is given to psychosocial issues.

Childcare. As the number of women and mothers who work outside the home continues to increase, affordable daycare is a much needed resource. Attempting to balance work demands, career goals, and childcare responsibilities can cause a great deal of anxiety and stress (239). Daycare is also valuable to the stressed parent whose patience is taxed by the demands of continuous childcare. In addition to offering the parent some respite, childcare programs can provide the child with a rich and stimulating environment. There are numerous kinds of childcare provided in three types of settings: daycare centers, family daycare homes, and in the child's own home. The Federally funded Headstart program provides comprehensive developmental services primarily to preschool children from low-income families. Unfortunately, the quality of childcare facilities varies enormously and in recent years there has been a small but widely publicized number of cases where children have been sexually and physically abused by daycare staff. A lack of clear guidelines for daycare or a failure to implement existing guidelines or regulations has contributed toward the highly variable quality of daycare. The extremely low remuneration of daycare staff has made it difficult to attract and keep trained professionals in this field.

Interventions For "Latchkey" Children. These are programs for school age children of working parents, who return home from school when no adults are present to supervise them. The National Committee for the Prevention of Child Abuse (NCPA) has conducted eight demonstration latchkey projects, with the goal of diminishing the risk of abuse and possible neglect. For example, the "Balancing Work and Family Project" involves 4th, 5th and 6th graders, and addresses parental concerns and potential problem situations. In the children's sessions, their feelings about being left alone and communication with their parents are discussed. They also receive instruction in personal safety skills, identifying family rules, learning to discriminate between emergencies and non-emergencies, learning emergency procedures, and responsibilities for siblings.

Support Groups. Support groups are a key ingredient in many programs. Such groups offer an opportunity for people in similar situations to share experiences and information, thereby facilitating friendships and the creation of social networks. Given the multiple problems that many maltreating families have, a supportive group and network can provide a buffer and help develop skills to help these families cope better.

Aside from groups led by professionals, self-help groups have arisen such as Parents Anonymous (240), and similar groups for the children. While many of the participants join the group after having maltreated their children, some who recognize their propensity for abuse use the group as a preventive intervention. Group members are generally highly motivated to change their ways, and frequently adopt a strong anti-professional stance.

Crisis Services. Many areas have resources available on a 24 hour basis to handle crisis situations. Generally, this consists of a telephone hot (or warm) line, offering comfort and guidance to a desperate parent. Additional resources that may be available are crisis caretakers, baby sitters, nurseries and counselling. The crisis service should be able to refer clients to longer term resources when necessary.

Tertiary Prevention

Tertiary prevention refers to those interventions that aim to decrease the likelihood of further maltreatment once the problem has already been identified. This goal frequently coincides with therapeutic efforts to offer support and minimize the potential harm. This includes different strategies that are monitoring, supportive, therapeutic, restrictive, or punitive. Analogous to primary and secondary preventive efforts, the array of tertiary prevention interventions has not been properly evaluated.

Many of the interventions that were described under secondary prevention are also employed in treatment and rehabilitative efforts. For example, family support services that enhance a family's functioning and help prevent maltreatment, are frequently also included in a treatment plan. Similarly, forms of psychotherapy, including individual, group, couples or family therapy, are used in both secondary and tertiary prevention. In adults, the aim of management is to enhance their healthy functioning and so decrease their propensity for future maltreatment. In children, treatment aims to ameliorate the psychological trauma associated with the abuse, to foster their healthy growth and development, and to diminish the risk that they in turn will maltreat their own children. Because of concerns about the intergenerational transmission of maltreatment, an indirect goal of therapy is to break this cycle of violence.

Case Work. In all 50 states, Child Protection Services within the states' Departments of Social Services are designated by law to respond to reports of alleged child maltreatment, and their mandate is to ensure the protection and adequate care of children. Case work involves regular monitoring of the family situation, and efforts to enhance family functioning, such as supportive counseling and referrals to local resources. Case work is social work, although the majority of personnel doing this work do not have a social work degree. In instances of serious injury or risk to the child, Child Protection Services have the authority, after obtaining judicial consent, to remove children from their families and temporarily place them in substitute care.

Given their reputation for working with maltreating and multiproblem families, a stigma is attached to these agencies, making client families resistant to accept their services. While they might tolerate limited intervention, families are generally less than fully willing to engage in forthright and therapeutic relationships with Child Protection Services social workers (241).

A contributory problem is the sometimes poor quality of staff and services provided by these agencies. As reporting criteria have been steadily broadened over the last two decades, the number of case reports has steadily increased, but legislators have not appropriated the funds for sufficient resources to address the identified problems. Consequently, these agencies are typically underfunded and overwhelmed, with limited resources, and demoralized staff resulting in a poor quality of professional work (242).

A third issue concerns the fundamental nature of the social services system. Sudia has described the mismatch of what these agencies offer and what clients need (243). Decent housing, job training, employment and money could make a substantial difference in the functioning of many high risk families, but these are not usually

included in the armamentarium of these agencies. In addition, counseling and therapeutic skills are often lacking, and the major responsibility has become that of policing the family. In fact, extensive collaboration with law enforcement agencies is now commonplace.

Substitute Care. Substitute care is the generic term for care not provided by the natural family. Foster care is one kind of substitute care, when a child is placed with another family. There are instances where the risk to the child remaining with the natural family is considered to be sufficiently high to warrant placing the child in an alternate setting away from the home. In 1983, over 75% of children entering substitute care were placed because of "parent related deficiencies" or some form of maltreatment (244). When possible, a plan is arranged with a member of the extended family, who is considered to be an adequate and trustworthy guardian for the child, to assume temporary custody. When there is no suitable alternative within the family, the child is placed in another family, on a temporary basis. At times, agencies have great difficulty finding a suitable home for a child and he or she may be placed in a residential institution that cares for children with medical or behavioral difficulties.

In each of these settings, depending on the circumstances, there might be continued visitation with the natural family, probably supervised by the child protection social worker. A goal is to continue to work towards the eventual reunification of the family. In addition, support is at times available for foster families, to help them cope with what can be very complicated situations and difficult to manage children. The foster care system is required by Federal law to review cases on a regular basis, assess progress, and within one year of the child's placement, a definitive "permanency" plan should be made (245). The juvenile justice system is also responsible for monitoring the child's placement. This legislation has led to some improvement in the system where all too often, children have been placed in inappropriate foster homes, lingered there for extended periods, and limited services have been available to foster and natural families (233, 244). If after reasonable efforts have been made, it becomes evident that reunification of the family is not feasible, the child might be placed for adoption.

Over the last decade, there have been increasing efforts to maintain the unity of the natural family, to limit the number of children entering foster care, and to decrease the length of time children spend in foster care. Accordingly, between 1980 and 1981 it is estimated that the number of children in foster care decreased 11% from 301,943 to 269,191 (246). The mean duration of children in placement decreased from 47 months in 1977 to 33 months in 1983 (244).

While the number of children in care has decreased, the costs per child have steadily increased (247). The monthly payment to foster families varies by state and the age of the child. Different states use different formulae for adding clothing and personal and incidental allowances to the basic monthly rate. For example, in 1983 in Massachusetts, caring for a child under 6 years, had a basic monthly payment of \$125.70, with a \$180/year clothing allowance and \$42.90/month personal allowance. If the child was over 12 years, these figures were \$239.70, \$275 and \$42.90 respectively. In Missouri, \$119 was the base rate for children under 6, with a one time payment of \$50 for clothing. For children over 12 years, these payments were \$167 and \$50. Missouri also had a special needs allowance calculated on an individual basis.

Psychotherapy. Individual and group psychotherapy is often employed in treating children and adults. Couples or marital counselling, and family therapy, particularly in the home, can be valuable interventions. Self-help groups such as Parents Anonymous

have reported good success with those who are motivated to find help for their problems (240). It is interesting to observe that although psychopathology has been found to contribute only modestly to child maltreatment, psychotherapy frequently is the major component of most treatment programs. This probably reflects the tradition in training and practice that professionals in the "helping" professions bring to their work. For preschoolers, daycare and particularly therapeutic daycare, where staff are skilled in helping children with their developmental and emotional problems resulting from maltreatment, appears to be an important intervention.

Family Support Services. Family advocates, parent aides, home health visitors, and support groups are interventions that are also used in treatment programs. By addressing the contributory etiological factors, the goal is to enhance family functioning and thereby reduce the recidivism of maltreatment. Many of the multiproblem families are involved with multiple agencies, and a family advocate can function in a liaison and coordinating role for the family.

Legal Approaches. Although severe forms of child abuse have long been considered crimes, there has been a trend in recent years to further criminalize the problem of child maltreatment (248, 249). Law enforcement personnel and district attorneys are increasingly willing to enforce the laws and more cases are being brought to court. The majority concern sexual abuse or severe physical abuse.

A major goal of these initiatives is to punish the perpetrator for the "crime" of child maltreatment, and explicitly demonstrate that child maltreatment will not be tolerated in this society. This is intended to deter that person, and others, from maltreating children in the future.

Legal approaches are also considered necessary at times to mandate that maltreating families participate in recommended interventions. Frequently, these families deny their problems and the maltreatment of their children, and refuse to comply with social service agencies and other professional staff. Court authority and the threat of prosecution are thought to be necessary in persuading resistant clients to accept help, and many professionals support this approach. Other professionals are less sanguine about the utility of legal approaches, which have not been evaluated.

In recent years there has been mounting concern about the rights of victims. In some states, victims aide groups have been developed to assist victims of maltreatment to pursue legal options, to deal emotionally and practically with the legal processes, and court.

As with primary and secondary prevention, a multiproblem phenomenon warrants a multifaceted treatment plan. Lutzker's program for treating child abuse and neglect and Giarretto's program for treating sexual abuse are examples of broadly based comprehensive programs.

Lutzker's Project-12 Ways aims to reduce recidivism of child maltreatment by providing a variety of services to families referred to the program by the Illinois child protective service agency. In FY 1980, 169 families were served; 15% were referred for abuse, 40% for neglect, and 45% were considered at high risk for maltreatment. In recognition of the multiple factors contributing toward maltreatment, the program's "eco-behavioral" approach includes parent-child training, stress reduction, self-control, social support, assertiveness training, basic skills, leisure time, health maintenance and nutrition, home safety, job placement, couples counselling, alcoholism referral, money management, and a variety of pre- and postnatal prevention services for young and

unwed mothers (250). Several of these services are offered in the home, and treatment plans are tailored according to the needs of individual clients. The project is housed and operated out of the Behavior Analysis and Therapy Program, a master's degree program at Southern Illinois University at Carbondale, and direct services are provided by advanced graduate students who are supervised by senior faculty. Project 12-Ways is funded through Federal Title XX money, allocated by the State of Illinois.

Giarretto has developed the Comprehensive Child Sexual Abuse Treatment Program in Santa Clara County, California (251). The key to this program is inter-agency cooperation between police, social workers, mental health agencies, probation officers, defense and prosecuting attorneys, and judges, in collaboration with the child protection agencies. Giarretto employs a "humanistic attitude" in that interveners and clients invest in a "constructive and therapeutic" approach to address the problem of sexual abuse. The program consists of a range of professional, volunteer and self-help components that are well coordinated. The professionals involved in a case must agree to implement the strategy of Giarretto's program, and then collaborate toward common goals. The volunteers are mainly undergraduate and graduate students who are supervised by licensed counselors and frequently see clients in their own homes. The self-help component is Parents United. In group meetings, parents who have directly or indirectly needed to deal with child molestation, offer each other "friendship, understanding, and compassion", and constructive approaches to their situations.

VII. EVALUATION OF PREVENTION PROGRAMS

A panel amplifying the principles of the 1979 U.S. Surgeon General's Report on Health Promotion and Disease Prevention wrote "By 1990, injuries and deaths to children inflicted by abusing parents should be reduced by at least 25%" (252). In 1985, the National Committee for Prevention of Child Abuse enunciated a similar goal: "We can prevent child abuse and we will prevent it. Our goal is to reduce child abuse by at least 20% by 1990" (253). As described in the previous section, a broad array of prevention programs has been developed, and yet the number of reported cases of child maltreatment continues to rise (32). An increasing awareness among the public and professionals has probably contributed toward this rise; however, the number of substantiated cases has also increased.

Prevention offers the possibility of reducing both short- and long-term costs of child abuse and neglect. Based on her estimates of costs, presented earlier, Daro calculated that if interventions had succeeded in preventing 20% of maltreatment episodes in 1983, \$285 million could have been saved. This hinges on the effectiveness of prevention programs, which is the focus of this section.

There are several concerns related to the question of the effectiveness of preventive strategies. Our ability to accurately predict which children will be maltreated remains crude; available screening measures lack adequate sensitivity and specificity for broad clinical use (254, 255, 256). The relatively low prevalence of child maltreatment compounds this problem, which is why secondary preventive approaches have been preferred to primary ones. Moreover, a criterion for a screening test is that the subject should benefit from the early detection of a problem. If our ability to satisfactorily improve high risk situations is uncertain, this exerts an ethical restraint against screening. Further, concern about parental and individual rights and family privacy restrict the willingness and ability of the state are clearly at significant risk. Usually this threshold is crossed when manifestations of maltreatment are evident, not before. This makes primary and secondary prevention difficult. Families deemed to be high risk might be stigmatized, and a label of "potential abuser" could become a self-fulfilling prophecy.

Considering all the interest in preventing child maltreatment, it is remarkable that relatively few programs have been rigorously evaluated as to short- and long term outcomes. Where assessments have been made, outcome measures have generally been rather remote proxies for actual maltreatment, such as change in knowledge about child development, clinicians' estimates of propensity for maltreatment, or children's prediction of their responses to a hypothetical abusive incident. Moreover, the results of evaluations using these outcome measures have been mixed. Cohen, Gray and Wald reviewed prevention programs involving early contact, perinatal support, parent education and counseling, and concluded that although the evaluation studies "are still too few to allow bold claims, they do suggest that much of what we have been trying may benefit at least a subgroup of the at-risk population" (257). A recent review of research on prevention concluded even more conservatively: "The programs offer unique, innovative, and exciting ideas for the primary prevention of child abuse. However, with the possible exception of the health visitor concept, the degree to which these approaches can actually prevent child abuse and/or enhance family functioning is an empirical question yet to be answered" (258).

Why is this basic question not yet answered? The field is a relatively new one, with prevention strategies rarely older than 5 or 10 years. Evaluation studies are even

more recent. In addition, funding resources for prevention programs have generally been limited, making it difficult to spend money on evaluations. Garbarino discusses additional factors that have complicated the evaluation of prevention efforts (253). Child death data have been shown to inadequately document the precise cause of death, and information concerning childhood injuries is frequently incomplete. While much knowledge about child abuse is derived from physical abuse cases, relatively little attention has been paid to physical and psychological neglect, and psychological abuse. In addition, much "knowledge" is based on reported cases, the generalizability of which has been questioned. Moreover, the program evaluations that have been done have not satisfactorily addressed the critical questions of what works, for whom, and under what circumstances.

In this period of severe limitations on spending for social programs, it becomes crucial to examine the costs associated with child maltreatment. Since child advocates and clinicians have been developing programs with limited resources, in the face of immense needs, very little financial support has been available for cost-effectiveness analyses.

Cost-effectiveness analysis is commonly used in medicine, although there is a good deal of confusion about its exact meaning (259). This method establishes a key outcome variable(s), a measure of effectiveness, and compares different strategies that affect that variable. The dependent variable can be narrowly or broadly drawn, although for decisions bearing on public policy, the latter is preferred. The more comprehensive the ascertainment of costs, and of the effects, the more information is provided to guide decision making. Generally, costs are estimates of dollars involved, and not of "intangibles" such as the discomfort of a procedure or the time needed to have a test administered. The effects are typically health outcomes; in this case the effect would be to diminish the incidence of child maltreatment. One strategy is more cost-effective than another if it is (a) less costly and at least as effective; (b) more effective and more costly, but its additional benefit is worth its additional cost; or (c) less effective and less costly, when the added benefit of the rival strategy is not worth its extra cost (259).

Wagner has listed essential criteria for conducting cost-effectiveness analyses (260):

1. Validity: the extent to which a study finding represents the truth. Three types of validity are key in economic evaluations.
 - a. Internal validity: the likelihood that the study outcomes can be attributed to the proposed mechanism, free of any confounding.
 - b. External validity: the generalizability of study findings to a larger population. This warrants a detailed description of the study sample, and a sample that is representative of the population of interest.
 - c. Measurement validity: the study measures actually assess what they are purporting to measure. This can be especially important in the psychosocial domain where direct measurement is frequently problematic, and proxy measures are used.
2. Power: the ability of a study to detect true differences among groups. Largely this is a function of sample size, with larger samples being capable of detecting small differences.
3. Comprehensiveness: the importance of analyzing all the critical costs and effects has already been stressed. Failure to do so can result in misleading conclusions.

A variation of cost-effectiveness analysis is cost-benefit analysis, where theoretically all the costs and benefits associated with an intervention are measured, and assigned a monetary value. With the exception of the Armstrong study (261), to be discussed, this method has not been used in the area of child maltreatment, because conceptual and pragmatic considerations create formidable obstacles. For example, there is no satisfactory way to attach a dollar figure to prolonging a child's life or to psychosocial effects such as feelings of fear or emotional support, pertaining to the quality of life.

An important facet of cost-benefit analysis is discounting. This refers to the system where future costs and benefits are discounted or ascribed a current value as if the costs and benefits were immediate. In this way our society reveals its preference for benefits now rather than at some future time. For example, a dollar estimated to be accrued one year hence is given a value of 90 cents if the discount rate used is 10%. The rate used varies. If there is a consensus that 80 cents now is preferable to a dollar a year later, a discount rate of 20% could be justified. The rationale for the discounting system is that there is generally a preference for a certain and immediate gain, rather than anticipating an estimated future benefit, partly because individual or programmatic changes in the interim can influence the realization of that benefit. Discounting has a substantial impact on interventions for children, because while most of the costs are current, many of the effects are long-term. This systematic bias makes it difficult to demonstrate the possible cost-effectiveness of these programs. However, many years of life are gained when saving the life of a child compared to an adult, and this contributes to the benefits of prevention programs for children.

It is critical to recognize both the utility and the limitations of cost-benefit and cost-effectiveness analyses. Daro has stated the issue eloquently: "Reducing the present and future pain caused children by abusive or neglectful parents is considered a worthy and humanitarian public objective and an objective which should be sought regardless of the costs...Social policy, however, is costly and ignoring the direct expenditures associated with attempts to resolve social problems will not make programs less costly nor will it result in the most efficient social choices. While no one should argue that costs be the sole determinant of policy, neither should costs be considered an inappropriate contributor to the decision making process" (10).

Evaluation of the National Demonstration Program In Child Abuse and Neglect 1974-1977, (204)

In one of the few Federally funded cost-effectiveness evaluations of child abuse programs, Berkeley Planning Associates assessed eleven treatment programs, between 1974-77. Although called treatment programs, subjects included high risk families who had not been identified for maltreatment. There was no random assignment to programs, and typically subjects were referred to what was available locally. Each program offered a variety of services that were tailored to the needs of individual clients. These costs were then used to estimate the annual costs of five different service models.

Programs were classified into five different service models (Individual Counseling/Social Work, Lay Therapy, Group Treatment, Children's Program, and Family Treatment), shown in Figure 1. Each model consisted of basic services, such as intake and diagnosis, case management and review, and also differing interventions making each program model unique. Average per-unit costs of key services were estimated and the costs per service model were extrapolated, for a hypothetical case load of 100 clients.

Figure 1

Annual Program Costs Estimated for Five Intervention Models Serving 100 Clients

	Model Costs	With Ancillary Service ¹	With Community Education Services ²
BASIC SERVICES • Intake and Initial Diagnosis • Case Management and Regular Case Review • Crisis Intervention After Intake • Multidisciplinary Team Case Review (25% of caseload) • Court Case Review (25% of caseload) • Follow-Up	INDIVIDUAL COUNSELING/ SOCIAL WORK MODEL Basic Services - plus Individual Counseling*	\$135,897 (\$225,045) ³	\$169,560 (\$280,791) ³
	LAY THERAPY MODEL Basic Services Lay Therapy Counseling* Parents Anonymous* (25% of caseload)	\$104,372 (\$172,840) ³	\$138,035 (\$228,586) ³
	GROUP TREATMENT MODEL Basic Services Group Therapy* (50% of caseload) Parent Education Classes (20 sessions) Individual Counseling* (25% of caseload)	\$124,672 (\$206,457) ³	\$158,335 (\$262,203) ³
	CHILDREN'S PROGRAM Basic Services Child Development Program* Special Child Therapy (10% of caseload)	\$646,407 (\$1,070,450) ³	\$608,070 (\$1,006,964) ³
	FAMILY TREATMENT PROGRAM Basic Services Children's Program Individual Counseling* Family Counseling* (50% of caseload) Group Therapy* (50% of caseload)	\$828,407 (\$1,372,842) ³	\$862,070 (\$1,427,588) ³
		\$211,950 (\$350,989) ³	\$172,543 (\$285,731) ³
		\$197,919 (\$327,754) ³	
		\$350,088 (\$1,407,775) ³	
		\$1,077,586 (\$2,784,482) ³	

*Assume weekly provision

¹Ancillary services include babysitting/child care, transportation/waiting and psychological and other testing.

²Community activities, estimated to result in a 25% increase over the costs of the basic model and ancillary services, include prevention, community education, professional education, coordination, and legislation and policy.

³These figures have inflated the costs by a factor of 1.656 to reflect the average wage increase for state and local government service workers between the 1976 data collection period and 1983, as reported by the U.S. Bureau of the Census Statistical Abstract of the United States: 1985 (105th Edition), Washington, DC, 1984, Table No. 474.

SOURCE: Berkeley Planning Associates, Cost Report: Evaluation, Joint OGD/SRS National Demonstration Program in Child Abuse and Neglect, 1974-1977, Prepared under Contract No. 106-74-120 and Contract No. 230-75-0076, December 1977.

The annual costs of the 5 models ranged from \$104,372 to over \$800,000 per hundred families in 1977 dollars, and when ancillary services, such as babysitting and transportation were added, these figures increased significantly. Further increases are seen as Daro converted these amounts to 1983 dollars (10).

The key outcome measure was the clinician's judgment of the client's propensity for future maltreatment, assessed at the end of the intervention. The recurrence of maltreatment during treatment was also assessed by the primary clinician involved in the case. In addition, the child protective service agencies informed program staff of clients who were reported to them. Multivariate regressions were then done for three service models, with the clinician's judgement as the outcome variable. The probability of a reduced propensity for child maltreatment, was assessed for clients receiving one of three of the service models (see Table 5).

Major Study Findings. Of the 1,724 of parents studied, 30% were reported to have severely abused or neglected their child while in treatment. "Severe" referred to severe or moderate physical injuries or physical neglect, and sexual abuse. The severity of the case at intake was the strongest predictor of recurrence. Severity of the case was assessed by a previous history of maltreatment, recent severe maltreatment, and families rated as seriously stressed at intake. Recurrence was lowest in projects employing highly trained workers to manage cases.

Of 1,190 parents assessed by clinicians at termination, 42% were judged to have a reduced potential for maltreatment. While parental age, employment status, and race did not predict outcomes, improvement was more likely in clients who did not abuse alcohol or drugs. In addition, a reduced propensity for maltreatment occurred more often in cases of physical abuse than when neglect was involved.

Only one program was successful for more than half of the clients participating. The best results, 53% improving, were obtained when lay services were involved. No other mix of services achieved better than a 40% result. The lay service package generally included case management by a full-time trained worker, and a lay person, often a volunteer, who served the client as a friend and support. There would be at least weekly meetings and the lay counselor or parent aide was generally available to help with daily needs. The lay package in some instances involved Parents Anonymous, a self-help group.

Lay treatment services were, as expected, less costly than other interventions. The annual expense per case was roughly \$1,400 compared to \$1,700 for individual counseling by paid social workers. Because of superior results of the lay package, costs were about \$2,600 per year for each "successful" case, compared to \$4,700 a year for the social work model. Professional group counseling cost \$4,000 a year per "successful" case.

Only 70 children received therapy, with three of the 11 projects providing this service. Of 24 socialization and family interactional problems noted at intake, over half the children improved in 19 of these problem areas. Approximately two thirds of children with the following problems improved: apathy, giving and receiving affection, general happiness, hypervigilance, ability to protect oneself, and general interaction with adults. Few children had physical problems, most of which were at least partially corrected during treatment.

Study Shortcomings. The main outcome measure was highly questionable. Clinicians working with families can hardly be expected to make unbiased judgements of their client's progress. Faith in one's therapeutic ability, hopes for a client one cares about, and knowing that one's work is being evaluated might be expected to influence that final assessment. Additionally, no information is provided as to how exactly clinicians were instructed to make their ratings, whether any standard measure was used, and what were its psychometric properties. The effectiveness of programs is therefore difficult to assess. In a separate study done by Berkeley Planning Associates for the Michigan Department of Social Services (262), the clinician's rating of future maltreatment was thought to be the strongest predictor of actual maltreatment. However, from the data presented in the Final Report of that study, it is unclear whether this measure achieved satisfactory positive and negative predictive validity, to serve as a useful screen.

In the multiple regression analyses, the service models explained only 2% of the variability in the outcome variable (clinicians' rating of propensity for maltreatment). Only the lay therapy model was statistically significant, but services appeared to contribute very little to client progress.

A central goal of tertiary preventive interventions is the improved long-term functioning and reduced maltreatment in families. In this study, no assessment was made beyond the termination of treatment because of funding constraints. The 30% recidivism rate of "severe" maltreatment during treatment is of concern. One would expect that the scrutiny of a treatment program would positively influence family behavior, so that recidivism would be expected to be minimal during treatment and then increase after the program is completed. Reincidence of maltreatment was lowest when highly skilled workers were involved, and yet the Lay Therapy model was found to be most effective (and most cost-effective). These seemingly contradictory findings are difficult to explain.

The high recidivism rate and the modest success achieved by the programs attest to difficulties in preventing maltreatment. Unfortunately, this evaluation does not meet several essential scientific criteria. For example, without comparison groups, it is impossible to know whether these outcomes would have been still worse without the programs.

The Exploration of Client Characteristics, Services and Outcome:
Evaluation of the Clinical Demonstration of Child Abuse and Neglect (1).

A second Federally funded national evaluation of 19 clinical demonstration projects was conducted by Berkeley Planning Associates between 1979 and 1981. Standardized data collection instruments were used to gather information on: demographic and descriptive characteristics of families and individual clients, clinical assessments of client functioning at intake and termination, details of the types and patterns of maltreatment involved, and a summary of all therapeutic and nontherapeutic services provided to the clients. The sample consisted of 986 families, comprising 1,250 adults, 710 adolescents and 975 children. This sample included a wider range of services and a more heterogenous client population than the earlier study.

Qualitative or descriptive approaches were used to summarize the organizational and service structures of the individual projects. Multivariate statistical techniques were used to identify the specific service and client characteristics accounting for positive outcomes. Clinical progress during treatment was assessed at termination along

Table 5
Cost-Effectiveness of Service Models

Service Model	Probability of Reduced Propensity for Child Abuse/Neglect if a Client Receives Services ^a	Average Costs of Serving 100 Clients with Model	Average Cost per Successful Family Outcome
Lay Model	.533	\$138,935 (\$228,586) ^b	\$2,590 (\$4,289) ^b
Group Model	.388	158,335 (262,203) ^b	4,081 (6,758) ^b
Social Work Model	.380	169,560 (280,791) ^b	4,462 (7,389) ^b

^aCalculated from a multivariate regression of each of the three service models against the clinician's judgment of the client's likelihood for reabuse.

^bThe figures have inflated the costs by a factor of 1.656 to reflect the average increase in state and local government service workers between the 1976 data collection period and 1983, as reported by the U.S. Bureau of the Census Statistical Abstract of the United States: 1985 (105th Edition), Washington, DC, 1984, Table No. 474.

SOURCE: BPA, 1977.

three dimensions: the reincidence of maltreatment during treatment, clinician judgment regarding propensity for future maltreatment, and clinical judgment of the client's overall progress. Families and individuals with similar characteristics were compared to assess the effectiveness of different types of services. Regressions analyses were conducted on subpopulations (e.g., sexual abuse, emotional maltreatment) to examine potential differences in achieving successful outcomes.

Major Findings. Adult clients showed substantial improvement in various functioning problems during treatment: 57% improved in their knowledge of child development, 55% in understanding their child's needs, 49% decreased their "excessive need" for their child to obey commands, and 47% had more self-esteem. However, over 50% of adult clients were judged, when leaving the program, as likely to maltreat their children in the future.

Many infants, children and adolescents were maltreated while their families were in treatment. Sexual abuse cases had the lowest reincidence of maltreatment (19%), and child neglect cases the highest (66%). Of the total sample during treatment, 3% were involved in sexual abuse, 26% in child neglect, and 36% in emotional maltreatment. No specific services were associated with reduced recidivism during treatment. At the time of termination, only 40% of the children and adolescents were residing in the same household and with the caretaker they had at the time of intake.

Group and family counseling were consistently identified as more likely to contribute to positive outcomes, than individual therapy. For example, adults in group counseling were 20% more likely to achieve overall progress than adults who did not receive this service. In these analyses, client characteristics and the severity of the initial maltreatment were statistically controlled.

Optimal clinical outcomes were achieved by clients who remained in the programs for 13 to 18 months. This finding suggests that if good progress has not been achieved by eighteen months, it might be well to discontinue the client's participation in the program and consider an alternative approach.

Abused adolescents benefited most from skill development classes, temporary shelter, and group counseling. From intake to termination of treatment, adolescents improved in these areas: sleeping problems (63%), eating problems (42%), feeling maltreatment deserved (72%), depression (70%), suicides gestures (68%), and violent behavior (58%). Children achieved maximum gains with individual or group counseling, and therapeutic day care. The improvements seen with children included: wetting and soiling (66%), sleeping problems (65%), chronic health problems (54%), expressive language (62%), attention span (50%), lack of trust (67%), and vandalism (61%).

Seventy percent of the adult clients in the sexual abuse treatment programs were judged by their clinicians to be "overall improved", compared with 40% in the neglect programs, with the other groups occupying intermediate positions. The improvement by the families involved in sexual abuse was positively influenced by the client acknowledging responsibility and cooperating with services; this variable explained more than 30% of the variance in overall progress.

Costs. Average per unit costs were estimated for the different services provided by the 19 projects, and adjusted to reflect 1983 cost levels (see Table 6). As was done in the first study, programs were classified into five models, each a package of services, (Sexual Abuse, Adolescent, Substance Abuse, Remedial Service and Child Neglect) and the average costs associated for each type of program were estimated. Programs varied

in their costs according to the make-up of their case loads, and the type of services provided. Unfortunately, lay therapy services were not adopted by any of the 19 programs in the second study.

Annual costs were then calculated, based on the costs in Table 7, for hypothetical model programs to serve groups of 100 families (see Table 7). These costs ranged from \$516,000 to \$1,600,000, with individual psychotherapy, particularly for children and adolescents, being an especially expensive intervention. As expected, as the models became more comprehensive and included therapeutic services, their cost increased. The costs were generally similar for the different kind of maltreatment projects, except for therapeutic interventions for the adolescent and remedial services models which were considerably more expensive.

Study Shortcomings. Several of the criticisms made of the first Berkeley Planning Associates' study, also pertain to this evaluation. The demonstration project was not a controlled experiment: there were no control groups, and clients were not randomly assigned to programs. The primary source of data was the clinical staff that worked most closely with clients. As described earlier, their judgments are not unbiased. However, an incomplete substudy was conducted to determine the reliability of this measure. Fifty clients volunteered, after termination of treatment, to be interviewed by local clinicians not involved in the program. An "initial review of some of the substudy findings" did not substantiate the expectation that primary clinicians would view their clients more favorably (10). While the study done by the same consulting group for the State of Michigan suggests the moderate validity of the clinicians' ratings, the authors accept that the "impact measures remain as subjective judgments". With uncertainty about this outcome measure, the findings are not persuasive. In addition, the authors acknowledge the deficiency of not having outcome data beyond the time of termination with the program. Continuation of the study was proposed, but funding was not available from the National Center for Child Abuse and Neglect, which had sponsored the study.

Because of the serious methodological limitations of these two major studies, there is little useful evidence as to which programs are more effective or cost-effective in preventing child maltreatment. However, data were gathered on the costs of different services; the results suggest that parenting education, education and skill development, lay therapy and peer support groups may achieve the best client outcomes, often at the lowest cost. Although some clients will require individual therapy, family or group therapy tend to be preferable.

Collaborative Research Effort: Health-Based and Mental Health-Based Services Improvement Demonstration Programs (6)

The National Center for Child Abuse and Neglect (NCCAN) funded six projects from 1982 to 1985 for developing health-based services to prevent child maltreatment. The stated objectives were:

1. To develop improved prenatal and perinatal programs.
2. To support coordination among health related agencies and other agencies providing family support services.
3. To enhance infant-family bonding, and the health of family members.
4. To increase knowledge about cost-effectiveness so that prevention programs can improve their services.
5. To augment family's self-sufficiency in adequately caring for their children.
6. To reduce the incidence of child maltreatment.

Table 6
Average Unit Costs Across All Projects for Direct Services

Service	Unit Measurement	\$/Unit (Average Cost to Project) ^a	\$/Unit Adjusted for 1983 Costs ^b	Number of Projects Providing Service
Outreach	Cases	\$ 25.25	\$ 46.78	7
Intake & Initial Diagnosis	Intakes	78.75	130.41	10
Court Case Activities	Cases	126.00	208.66	10
Crisis Intervention During Intake	Contacts	13.50	22.36	6
Multidisciplinary Review	Reviews	54.75	90.67	9
Individual Counseling	Contact Hrs.	14.75	24.43	11
Parent Aide/Lay Therapy	Contact Hrs.	7.25	12.00	8
Couples Counseling	Contacts	17.00	28.15	8
Family Counseling	Contacts	30.00	49.68	6
Alcohol, Drug, Weight Counseling	Per. Sessions	7.50	12.42	2
24-Hour Hotline	Calls	7.50	12.42	2
Individual Therapy	Contacts	21.25	35.19	7
Group Therapy	Per. Sessions	10.50	17.39	6
Parents Anonymous	Per. Sessions	5.75	9.52	4
Parent Education Classes	Per. Sessions	9.50	15.73	7
Crisis Intervention after Intake	Contacts	14.25	23.60	10
Day Care	Child Sessions	7.75	12.83	2
Residential Care	Child Days	37.75	62.51	1
Child Development Program	Child Sessions	21.50	35.60	4
Play Therapy	Child Sessions	11.75	19.46	4
Special Child Therapy	Contacts	54.25	89.84	1
Crisis Nursery	Child Days	35.50	58.78	1
Homemaking	Contacts	22.75	36.67	3
Medical Care	Visits	23.50	38.92	7
Babysitting/Child Care	Child Hours	3.50	5.80	4
Transportation/Waiting	Rides	8.75	14.49	8
Psychological & Other Tests	Person Tests	36.25	60.03	8
Follow-Up	Per. Follow-Ups	36.50	43.88	6

^aThese costs reflect raw data adjusted for wage/price differentials, project management and overhead distribution.

^bAll costs have been inflated by a factor of 1.656 to reflect the average increase in state and local government service workers between the 1976 data collection period and 1983, as reported in the U.S. Bureau of the Census Statistical Abstract of the United States: 1985 (105th Edition), Washington, DC, 1984, Table No. 474.

SOURCE: Berkeley Planning Associates, Cost Report: Evaluation of the Joint OCS/SES National Demonstration Program in Child Abuse and Neglect, 1974-1977. Prepared under Contracts No. 106-74-120 and No. 230-75-0076, December 1977.

Table 6
Summary of Average Costs for Various Services Provided by NCCAN-Funded Demonstrations

	Unit Measurement	Staff Cost Per Unit ^a	Total Per Unit Cost ^b	Number of Projects Providing Service
<u>Crisis and Emergency Services</u>				
Crisis Intervention	Per Hour	\$16.29	\$21.18	15
Respite Nursery	Per Child Stay	19.38	25.19 ^c	1
24-Hour Hotline	Per Call	6.71	8.72	9
<u>Concrete Services</u>				
Clothing	Per 30 Min. Contact	2.06	2.68 ^c	2
Day Care/Babysitting	Per Client Contact	13.06	16.98	2
Food	Per Client Week	3.97	5.16 ^c	6
Medical Services	Per Client Hour	56.48 ^d	73.42	5
Money	Per 30 Min. Contact	4.08	5.30 ^c	4
Recreational Services	Per Client Hour	9.50	12.35	9
Shelter - Adolescents	Per Client Week	25.95	33.74 ^c	2
Shelter - Children	Per Client Week	14.56	18.93 ^c	1
Transportation	Per Client Trip	15.91	20.68	17
<u>Support Services</u>				
Advocacy	Per 45 Min. Contact	10.00	13.00	18
Casework Counseling	Per Client Hour	10.23	13.30	16
Foster Placement Assistance	Per Client Hour	15.69	20.40	7
Home Finding - Adults	Per Client Hour	15.54	20.20	3
Home Finding - Adolescents	Per Client Hour	5.07	6.59	3
Job Finding - Adults	Per Client Hour	11.38	14.79	5
Job Finding - Adolescents	Per Client Hour	6.19	8.05	3
Lay Companion	Per 90 Min. Contact	18.79	24.43	5
Legal Assistance	Per Client Contact	13.23	17.20	9
Vocational Couns. - Adolescents	Per Client Hour	2.81	3.65	2
<u>Education and Skill Development</u>				
Academic Education	Per Client Hour	\$10.79	\$14.03	2
Cooking Instructions	Per 30 Min. Contact	7.84	10.19	4
Family Planning - Adults	Per Client Hour	5.87	7.63	4
Family Planning - Adolescents	Per Client Hour	9.78	12.71	1
Household Mgmt. - Adults	Per 30 Min. Contact	6.98	9.07	4
Household Mgmt. - Adolescents	Per 30 Min. Contact	7.09	9.22	4
Parenting Training	Per Client Hour	10.14	13.18	8
Vocational Skills Training - Adolescents	Per Client Hour	3.93	5.11	2

Table 6 (continued)

	Unit Measurement	Staff Cost Per Unit ^a	Total Per Unit Cost ^b	Number of Projects Providing Service
<u>Remedial Services for Children</u>				
Infant Stimulation	Per Client Hour	20.81	27.05	5
Parent-Child Supervised Interactions	Per Client Hour	11.14	14.48	3
Physical Rehabilitation	Per Client Hour	15.67	20.37	3
Special Education	Per 90 Min. Contact	16.63	21.62	2
Therapeutic Day Care	Per Child Day	16.94	20.02 ^c	3
<u>Therapy</u>				
Individual Therapy	Per Client Hour	22.41	29.13	17
Family Therapy	Per Family Hour	20.14	26.18	16
Adolescent Group Therapy	Per Client Hour	12.79	16.63 ^c	4
Adult Group Therapy	Per Client Hour	14.73	19.15 ^d	6
Play Therapy	Per Child Hour	20.76	26.99	7
Children Support Groups	Per Child Hour	5.74	7.46	6
Family Workshops	Per Family Hour	20.10	26.13	2
<u>Diagnosis and Case Mgmt. Services</u>				
Intake and Initial Diagnosis	Per Week ^e	99.25	129.00	18
Multidisciplinary Team Case Review	Per Week ^e	186.05	241.87	17
Psychological Testing	Per Client Contact	35.82	46.57	12
Regular Case Review	Per Week ^e	408.50	530.47	19
<u>Project Management and Research</u>				
Daily Project Management	Per Week ^e	\$648.50	\$843.05	19
Staff Development & Supervision	Per Week ^e	214.05	278.27	19
Evaluation & Research	Per Week	413.36	537.37	18
<u>Community Activities</u>				
Community Coordination	Per Week	106.06	137.88	18
Community Education	Per Week	136.17	177.02	18
Legislative Activities	Per Week	121.42	157.85	7
Profesnl. Training & Education	Per Week	146.33	190.23	15

^aAll staff salaries have been inflated by a factor of 1.255 to reflect the average increase in state and local government service workers between the 1980 data collection period and 1983. (U.S. Bureau of the Census, Statistical Abstract of the United States: 1985 (105th Edition), Washington, DC, 1984, Table No. 474.

^bThese costs include an estimated 30% increase to cover all nonpayroll expenditures such as rent, utilities and equipment. Prior cost evaluations conducted on similar social service programs have estimated that payroll expenditures represent roughly 70% of a program's total costs (BPA, 1977).

Table 6 (continued)

^cThe total costs indicated for these services do not take into account the cost of the actual items provided as in the case of clothing, food, and money, or the start-up costs for the purchase of equipment necessary for establishing a respite nursery, shelter program, or therapeutic day care center. Consequently, actual program costs for these items would exceed the totals indicated.

^dIn computing the average cost for this category, data for all types of adult group therapy (e.g., mothers' groups, fathers' groups, parent groups, etc.) were pooled.

^eThese cost estimates are based upon an average caseload of 35 families.

Table 7

Service Models and Associated Costs for Serving 100 Families

	Sexual Abuse Projects				
	Minimal Service Model	Nontherapeutic Service Model	Therapeutic Service Models		
			Individual Counseling	Individual and Family Counseling	Group Counseling
<u>Basic Service Package</u>					
• Intake and Diagnosis	X	X	X	X	X
• Regular Case Review	X	X	X	X	X
• Multidisciplinary Case Review (30% of all families)	X	X	X	X	X
• Project Management and Staff Development	X	X	X	X	X
TOTAL COMPONENT COSTS	\$300,248	\$300,248	\$300,248	\$300,248	\$300,248
<u>Minimal Service Package</u>					
• Crisis Intervention	X	X	X	X	X
• Casework Counseling	X	X	X	X	X
• Concrete Services	X	X	X	X	X
• Support Services-Adults	X	X	X	X	X
• Support Services-Adolescents	X	X	X	X	X
• Remedial Services for Children	X	X	X	X	X
TOTAL COMPONENT COSTS	\$153,389	\$153,389	\$153,389	\$153,389	\$153,389
<u>Nontherapeutic Ancillary Services</u>					
• Educational and Skill Development-Adults		X	X	X	X
• Educational and Skill Development-Adolescents		X	X	X	X
• Parent Education		X	X	X	X
• Supervised Parent-Child Interactions					
TOTAL COMPONENT COSTS	—	\$53,194	\$53,194	\$53,194	\$53,194
<u>Therapeutic Services</u>					
• Individual Counseling			X	X	
• Family Counseling				X	
• Group Counseling					X
TOTAL COMPONENT COSTS	—	—	\$228,765	\$364,865	\$225,225
<u>Intensive Children/Adolescent Services</u>					
• Temporary Shelter					
• Therapeutic Day Care					
• Infant Stimulation					
TOTAL COMPONENT COSTS	—	—	—	—	—
<u>Indirect Services</u>					
• Program Evaluation	X	X	X	X	X
• Community Activities	X	X	X	X	X
TOTAL COMPONENT COSTS	\$62,400	\$62,400	\$62,400	\$62,400	\$62,400
TOTAL COST FOR SERVICE MODEL	\$516,037	\$569,231	\$797,996	\$934,096	\$794,456

Table 7 (continued)

	Adolescent Maltreatment Projects					
	Minimal Service Model	Nontherapeutic Service Model	Therapeutic Service Models			
			Counseling Only		Plus Youth Services	
			Family Counseling	Individual Counseling	Family Counseling	Individual Counseling
<u>Basic Service Package</u>						
• Intake and Diagnosis	X	X	X	X	X	X
• Regular Case Review	X	X	X	X	X	X
• Multidisciplinary Case Review (30% of all families)	X	X	X	X	X	X
• Project Management and Staff Development	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$300,248	\$300,248	\$300,248	\$300,248	\$300,248	\$300,248
<u>Minimal Service Package</u>						
• Crisis Intervention	X	X	X	X	X	X
• Casework Counseling	X	X	X	X	X	X
• Concrete Services	X	X	X	X	X	X
• Support Services-Adults	X	X	X	X	X	X
• Support Services-Adolescents	X	X	X	X	X	X
• Remedial Services for Children	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$249,722	\$249,722	\$249,722	\$249,722	\$249,722	\$249,722
<u>Nontherapeutic Ancillary Services</u>						
• Educational and Skill Development-Adults		X	X	X	X	X
• Educational and Skill Development-Adolescents		X	X	X	X	X
• Parent Education		X	X	X	X	X
• Supervised Parent-Child Interactions						
TOTAL COMPONENT COSTS	—	\$57,645	\$57,645	\$57,645	\$57,645	\$57,645
<u>Therapeutic Services</u>						
• Individual Counseling				X		X
• Family Counseling			X		X	
• Group Counseling						
TOTAL COMPONENT COSTS	—	—	\$136,100	\$409,050	\$136,100	\$490,050
<u>Intensive Children/Adolescent Services</u>						
• Temporary Shelter					X	X
• Therapeutic Day Care						
• Infant Stimulation						
TOTAL COMPONENT COSTS	—	—	—	—	\$263,120	\$263,120
<u>Indirect Services</u>						
• Program Evaluation	X	X	X	X	X	X
• Community Activities	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$62,400	\$62,400	\$62,400	\$62,400	\$62,400	\$62,400
TOTAL COST FOR SERVICE MODEL	\$612,370	\$670,015	\$806,115	\$1079,065	\$1069,235	\$1342,185

Table 7 (continued)

	Remedial Service Projects					
	Minimal Service Model	Nontherapeutic Service Model	Therapeutic Service Models			
			Counseling Only		Plus Children's Services	
			Family Counseling	Family & Group Counseling	Family Counseling	Family & Group Counseling
Basic Service Package						
• Intake and Diagnosis	X	X	X	X	X	X
• Regular Case Review	X	X	X	X	X	X
• Multidisciplinary Case Review (30% of all families)	X	X	X	X	X	
• Project Management and Staff Development	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$300,248	\$300,248	\$300,248	\$300,248	\$300,248	\$300,248
Minimal Service Package						
• Crisis Intervention	X	X	X	X	X	X
• Casework Counseling	X	X	X	X	X	X
• Concrete Services	X	X	X	X	X	X
• Support Services-Adults	X	X	X	X	X	X
• Support Services-Adolescents						
• Remedial Services for Children	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$227,534	\$227,534	\$227,534	\$227,534	\$227,534	\$227,534
Nontherapeutic Ancillary Services						
• Educational and Skill Development-Adults		X	X	X	X	X
• Educational and Skill Development-Adolescents						
• Parent Education		X	X	X	X	X
• Supervised Parent-Child Interactions		X	X	X	X	X
TOTAL COMPONENT COSTS		\$187,492	\$187,492	\$187,492	\$187,492	\$187,492
Therapeutic Services						
• Individual Counseling						
• Family Counseling			X	X	X	X
• Group Counseling				X		X
TOTAL COMPONENT COSTS	—	—	\$136,100	\$257,612	\$136,100	\$257,612
Intensive Children/Adolescent Services						
• Temporary Shelter						
• Therapeutic Day Care					X	X
• Infant Stimulation					X	X
TOTAL COMPONENT COSTS	—	—	—	—	\$539,658	\$539,658
Indirect Services						
• Program Evaluation	X	X	X	X	X	X
• Community Activities	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$62,400	\$62,400	\$62,400	\$62,400	\$62,400	\$62,400
TOTAL COST FOR SERVICE MODEL	\$590,182	\$777,674	\$913,774	\$1035,286	\$1453,432	\$1574,944

Table 7 (continued)

	Substance Abuse Projects			
	Minimal Service Model	Nontherapeutic Service Model	Therapeutic Service Models	
			Family Counseling	Individual Counseling
<u>Basic Service Package</u>				
• Intake and Diagnosis	X	X	X	X
• Regular Case Review	X	X	X	X
• Multidisciplinary Case Review (30% of all families)	X	X	X	X
• Project Management and Staff Development	X	X	X	X
TOTAL COMPONENT COSTS	\$300,248	\$300,248	\$300,248	\$300,248
<u>Minimal Service Package</u>				
• Crisis Intervention	X	X	X	X
• Casework Counseling	X	X	X	X
• Concrete Services	X	X	X	X
• Support Services-Adults	X	X	X	X
• Support Services-Adolescents	X	X	X	X
• Remedial Services for Children	X	X	X	X
TOTAL COMPONENT COSTS	\$250,684	\$250,684	\$250,684	\$250,684
<u>Nontherapeutic Ancillary Services</u>				
• Educational and Skill Development-Adults			X	X
• Educational and Skill Development-Adolescents				
• Parent Education			X	X
• Supervised Parent-Child Interactions				
TOTAL COMPONENT COSTS	—	—	\$66,257	\$66,257
<u>Therapeutic Services</u>				
• Individual Counseling				X
• Family Counseling			X	
• Group Counseling				
TOTAL COMPONENT COSTS	—	—	\$136,100	\$268,155
<u>Intensive Children/Adolescent Services</u>				
• Temporary Shelter				
• Therapeutic Day Care				
• Infant Stimulation				
TOTAL COMPONENT COSTS	—	—	—	—
<u>Indirect Services</u>				
• Program Evaluation	X	X	X	X
• Community Activities	X	X	X	X
TOTAL COMPONENT COSTS	\$62,400	\$62,400	\$62,400	\$62,400
TOTAL COST FOR SERVICE MODEL	\$613,332	\$679,589	\$815,689	\$947,744

Table 7 (continued)

	Child Neglect Projects					
	Minimal Service Model	Nontherapeutic Service Model	Therapeutic Service Models			
			Counseling Only		Plus Children's Services	
			Individual Counseling	Family Counseling	Individual Counseling	Family Counseling
Basic Service Package						
• Intake and Diagnosis	X	X	X	X	X	X
• Regular Case Review	X	X	X	X	X	X
• Multidisciplinary Case Review (30% of all families)	X	X	X	X	X	X
• Project Management and Staff Development	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$300,248	\$300,248	\$300,248	\$300,248	\$300,248	\$300,248
Minimal Service Package						
• Crisis Intervention	X	X	X	X	X	X
• Casework Counseling	X	X	X	X	X	X
• Concrete Services	X	X	X	X	X	X
• Support Services-Adults	X	X	X	X	X	X
• Support Services-Adolescents						
• Remedial Services for Children	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$257,188	\$257,188	\$257,188	\$257,188	\$257,188	\$257,188
Nontherapeutic Ancillary Services						
• Educational and Skill Development-Adults		X	X	X	X	X
• Educational and Skill Development-Adolescents						
• Parent Education		X	X	X	X	X
• Supervised Parent-Child Interactions		X	X	X	X	X
TOTAL COMPONENT COSTS	—	\$172,486	\$172,486	\$172,486	\$172,486	\$172,486
Therapeutic Services						
• Individual Counseling			X		X	
• Family Counseling				X		X
• Group Counseling						
TOTAL COMPONENT COSTS	—	—	\$195,435	\$136,100	\$195,435	\$136,100
Intensive Children/Adolescent Services						
• Temporary Shelter						
• Therapeutic Day Care						
• Infant Stimulation					X	X
TOTAL COMPONENT COSTS	—	—	—	—	\$29,568	\$29,568
Indirect Services						
• Program Evaluation	X	X	X	X	X	X
• Community Activities	X	X	X	X	X	X
TOTAL COMPONENT COSTS	\$62,400	\$62,400	\$62,400	\$62,400	\$62,400	\$62,400
TOTAL COST FOR SERVICE MODEL	\$619,836	\$792,322	\$987,757	\$928,422	\$1,017,325	\$957,990

In addition, NCCAN funded five mental health-based projects to improve services for maltreated children identified by protective service systems. The stated objectives were:

1. To provide mental health services (i.e. evaluation, diagnosis and treatment) for children identified as having been maltreated.
2. To coordinate the efforts of mental health and child protective services.
3. To teach mental health principles to child protective workers, and child welfare principles to mental health workers.
4. To increase the level of professionals' involvement in the case management of child maltreatment cases.

The collaborative research project started at the time the demonstration programs began in October, 1981, and 10 of the 11 programs continued for three years. The overall objective was to assess the processes, impacts, and costs associated with the various prevention and treatment programs. The project aimed to determine which approaches are most effective in reducing the incidence of child maltreatment, and, the costs associated with effective programs.

Four categories of data were collected from each program: project descriptors, client and case descriptors, cost data, and impact data. Cost data included available project resources, cost of project activities, and sample personnel time allocations. Impact data included recidivism of maltreatment during treatment, therapists' ratings of potential for child maltreatment of each client served and for the total family environment, and change in stress levels. A cost analysis was performed to determine how much money was spent on which project tasks. The impact on clients was assessed by these measures:

1. Case managers rated "condition at termination" of clients upon closure of a case.
2. At termination, case managers rated the overall family environment, particularly the safety of the children in the home.
3. Stress levels based on pre- and post-treatment ratings by the case managers.
4. A client satisfaction form.
5. The recidivism rate was to be estimated at termination of services.

The major study findings are presented in Table 8.

Study Shortcomings. This major Federally funded evaluation study of 11 demonstration projects yields vast numbers of summary statistics, most of which have little utility. In particular, the data addressing questions of effectiveness and cost-effectiveness of the projects have limited meaning. For example, the samples, although reasonably described, differ among the various projects. These differences preclude simply comparing programs and their effectiveness. This study makes no attempt to control statistically for important variables such as type and severity of maltreatment, willingness to participate in the program, and social class.

The outcome measures using the clinicians' judgments have the same problem as stated for the previous studies. Although the authors list recidivism of maltreatment as an outcome measure, there is no description of how this was assessed, and it is not mentioned in the impact analyses. In addition, outcomes were only assessed when the clients terminated with the program, and no follow-up was done. Given that the prevention of future maltreatment and the continued improved functioning in these families were major goals, it is unfortunate that no longitudinal data were gathered.

TABLE 8: Major findings of the Collaborative Research Effort (6)

	<u>Mental health-based projects (%)</u>	<u>Health-based projects (%)</u>
<u>Family Environment</u>		
"major improvement"	19	15
"moderate improvement"	32	31
"slight improvement"	23	32
"no improvement"	24	17
"deteriorated"	3	4
<u>Family Stress Level</u>		
"decreased"	19	20
<u>Client's Condition at Termination of Treatment</u>		
child: "some improvement"	75	79
"decreased psychological problems"	21	—
adult: "some improvement"	73	79
"improved self esteem"	21	—
Total cost for first three years	\$233,000- \$277,225	\$234,540- \$249,695
Average cost per case	\$359 - \$1,139	\$65-\$920

The statistics presented are inadequate; no significance tests were conducted. Even the summary statistics are crudely presented; for example, the costs associated with various interventions are simply lumped together under "direct services" or "other case related". No actual cost-effectiveness analyses were done, although this was a stated goal of the study. In conclusion, this study offers little useful information on which programs were effective (or cost-effective), for which clients, and under what circumstances.

Evaluation of Sexual Abuse Prevention Programs

The National Committee for the Prevention of Child Abuse in 1984 (236), and its Houston chapter in 1986 (125) published booklets on preventive programs that include sexual abuse. Finkelhor and Araji (263) reviewed prevention programs, and Conte, Rosen and Saperstein (237) analysed different facets of such programs. Most recently, Daro and colleagues reviewed sexual abuse programs that had been evaluated (264).

These reviews found that relatively few programs have employed an experimental or quasi-experimental design to evaluate their interventions. Pre- and post-tests designs were usually used in those programs that were evaluated, and few used comparison groups.

Most of the evaluations explored the effectiveness of a single prevention strategy. Different projects used their own outcome measures, making comparisons difficult. Outcome measures usually assessed the child's knowledge and feelings about sexual abuse, and the child's prediction of his or her response to a hypothetical abusive situation. Actual behavior and the occurrence of subsequent sexual abuse have not been assessed. Typically, outcomes are determined immediately or soon after the intervention, and no study has examined outcomes beyond approximately 10 weeks following the intervention.

Most of these evaluations focused on elementary school children, rather than preschoolers or high school children. Research indicates that preschoolers have difficulty learning abstract concepts (265), although anecdotal evidence suggests they can be taught basic safety rules.

The evaluation of child sexual abuse prevention classes reveals mixed results. Some studies have found positive outcomes, by using pre- and post-tests that demonstrated an increase in knowledge of safety rules, and increased awareness of local resources in the event of abuse. The two studies on preschoolers noted significantly less gains. For example, Borkin and Frank found that few of the three year olds retained any of the information after only one week, and just 40% of the four and five year olds did so (266).

Several studies found over half of the children were familiar with many of the concepts prior to receiving any instruction. Since public awareness of sexual abuse has spiralled, children might learn about it from a variety of sources. Needs assessments are necessary to establish what training would be most useful.

While older children appear to make gains in their knowledge, a number of studies found that children need to be taught skills that can be applied in real life situations. In Downer's study, children learned the textbook definition of assertiveness, but none of the children could give a single example of how they could act assertively (267). Knowledge about sexual abuse may not correlate with how one anticipates one would act in an abusive situation, and hypothesizing one's response might be very different to one's actual

behavior. It is a change in behavior that is the ultimate goal of prevention efforts, and yet that has not been assessed. Moreover, programs have aimed to prevent children from becoming victims, but they have not attempted to prevent children from becoming molesters.

Swan, Press and Briggs found that 93% of children recognized the potential for coercive sexual assault, and 88% for violent sexual assault, within their own families (268). The ramifications of this finding are unclear, but it raises the question of the unanticipated consequences of these programs. Generally, the effects on children's fearfulness, understanding of their bodies, family relationships and sense of security have not been assessed. Anecdotal evidence suggests children may become extremely fearful, but research is needed to evaluate this.

No studies have explored changes in attitudes and behaviors of parents, teachers and others caring for children, although changes in these adults can have an important influence on the lives and development of children. Anecdotal evidence suggests that teachers, and even fathers, may be less inclined to hold or hug children, fearing that their behavior might be misconstrued. Again, this is an area that warrants study.

The fiscal costs of many of the school-based programs are relatively low. For example, The "Live Theater for Prevention of Child Sexual Abuse" in Hart, Michigan reported a cost of \$4.83 per child. Unfortunately, the evaluation of pre- and post-tests was not completed.

The "Child Assault Protection" program in Columbus, Ohio estimated their costs for parent/teacher/child workshops and materials to be \$3 - \$7 per child served. This program did not use a pre-test, but in the post-test, the children reported that they felt "safer" and "stronger".

The "I'm In Charge" program, based in Henderson, North Carolina, is a program for latchkey children that budgeted \$16,000 to reach 550 students and their families. The results of pre - and post-tests have not yet been analyzed.

Sexual abuse prevention programs and the evaluation of their effectiveness are recent developments. Because measuring the occurrence of subsequent sexual abuse is problematic, studies have instead assessed proximal and proxy outcomes such as knowledge and attitudinal change. This represents a reasonable first step, but does not address the critical questions of how long this information is retained, whether it alters actual behavior, and whether it helps prevent abuse. In addition, a number of potentially untoward ramifications have yet to be evaluated. Therefore, the uncertain effectiveness of current prevention strategies precludes any discussion of cost-effectiveness. Conte (280) and Finkelhor (8) have offered valuable guidance for future research.

Blythe's Review (269)

Blythe reviewed 16 studies of child abuse treatment, all of which specified the independent and outcome variables, and clearly defined the study sample. Eight of the investigations used single case evaluation tools to assess outcome in one to three clients; two used group designs; and five were characterized as program evaluations.

Target population. In most studies, the target population consisted of parents and stepparents who had maltreated their children. There was considerable heterogeneity in the severity and type of maltreatment, and in the demographic characteristics of clients

None of the studies used random sampling techniques, and the process of sample selection was frequently not explained.

Design. The single case studies generally used base line data collection followed by the intervention. Two studies used a two variable withdrawal design where two discrete interventions were specified. Clients were first exposed to one intervention, then to both, then to the second intervention, and finally to both. One study compared several treatment programs, another used a poorly matched comparison group, and only three studies collected pretest data. Over half the studies collected follow-up data, ranging from three to 18 months.

Independent Variables. Treatment programs varied in length, content, duration and frequency of sessions. Parent training consisted of bibliotherapy (pamphlets and other written materials), modeling of parenting, role play, anger management and relaxation exercises. In addition, treatment included a "socialization" intervention, arts and crafts activities, community outings, and classes on homemaking. Other dimensions on which programs differed were the training of the "counselor", and whether the intervention was delivered individually or in a group.

Dependent Measures. Four of the studies had some measure of whether abuse persisted after the parents had completed treatment. Outcome data focused on whether clients acquired targeted skills using clinicians' ratings, independent assessments of videotapes of parent-child interactions, and standardized inventories.

Findings. Little can be concluded about whether the rate of actual child maltreatment was decreased. Parent training was generally effective in modifying the parent's behavior, and occasionally, that of the child.

Blythe's review illustrates the state of the art in the assessment of child abuse treatment programs, at least in 1983. Unfortunately, substantial methodological deficiencies preclude our knowing with any specificity what is effective treatment, for whom, and under what circumstances. Rather, one has a vague sense of certain programs probably effecting various changes in family functioning.

Evaluation of Individual Programs

Aside from the major evaluations of multiple programs that have been described, several individual programs have been assessed. The following studies are reasonably sound methodologically and address the issue of cost-effectiveness.

Armstrong study. The Family Support Center in Yeadon, PA developed a treatment program for families considered to be at risk for maltreating their preschool age children (261). A multidisciplinary staff and volunteers offered three services to parents and children: Home-Based services, Family School, and Neighborhood Support Groups. A wide array of counseling, educational, health-related and social activities were included.

The outcome evaluation, based on 46 families and their 74 children, revealed that family stresses were significantly reduced, parent-child interactions and child care conditions improved, developmental delays were reduced, and significantly fewer children were maltreated.

To compute the monetary savings, estimates and probabilities were obtained from nonintervention studies of "similar" at risk populations. For example, in one study of

high-risk children spanning 17 months, 62% had at least one accident, of whom 20% were seriously injured requiring inpatient hospital care. Hunter and Kilstrom reported that after 12 months, 17% of high-risk infants were placed in out of home care and 18% suffered substantiated maltreatment (75).

Based on "experts' opinions, local figures and published studies," costs were estimated for the four main outcome variables: non-inflicted injuries, inpatient hospital care of maltreated children, foster care, and special education. Adjustments were made using the U.S. Department of Labor's Consumer Price Index, and future savings were discounted by 10%. The potential costs of treating 130 children, had there been no program, were estimated at \$508,000, compared to the cost of running the program for one year, \$180,000. The maximum potential saving was thus calculated to be \$328,000. However, not all the negative outcomes were completely prevented, and applying the same figures, these were calculated to cost about \$50,000. Therefore, for an investment of \$180,000, a net saving of \$278,000 was estimated.

Armstrong then converted the outcome measures to years of healthy life, instead of dollar estimates. Based on expert opinions and other available data, the proportion of a year affected by each negative outcome was computed and summed. An inpatient admission, for example, was estimated to be incapacitating on average for .10 of a year or 0.10 "health year". The 10% discount rate was applied to future savings, converting, for example, 6 years of special education to 4.79 years. A maximum of 130 health years was calculated to be the potential saving. After subtracting for the negative outcomes not prevented, a net saving of 112 health years was estimated.

Armstrong raises a number of cautionary notes in interpreting these findings and of economic analyses of this kind.

1. Estimates hinge on which outcome variables are included, and important ones may be excluded due to an inability to locate cost or probability data, or because they are difficult to measure. For example, the full extent of persistent child maltreatment was not assessed in this study.
2. Data based on different unmatched samples, even if also thought to be at high risk, raises the question of comparability.
3. Monetary costs, proportions of a health year affected, and selection of a discount rate were based on the best available data, but the estimates are necessarily crude.

This program evaluation and cost-benefit study represent the most detailed work of its kind in the field. Despite its limitations, her study indicates that these kinds of programs can lead to substantial benefits.

The Child Protection Team. This program in Jacksonville, Florida assessed the need for medical foster family care for children with complicated medical problems that their natural families were unable to take care of (270). The main goal was to find an appropriate placement for these children, thereby preventing possible neglect of their medical needs. Some of these children had health problems that had resulted from maltreatment.

The researchers calculated the number of hospital days that were medically necessary and those that were not. In all cases, many days that were not essential for hospital care contributed greatly to the costs. Consequently, the Child Protection Team,

in cooperation with the Foster Care License and Placement Unit, identified medical foster families according to set criteria. Medical care in the home was performed by a registered nurse, paid by a state subsidy. Medical foster family care per child for one month was estimated to cost \$1,491, compared to a hospital cost of \$9,279 - a saving of \$7,788.

This report offers few details on the quality of care, although it appears that foster families were carefully screened and well supported in the care of these children. In addition, concerted efforts were made toward reunification of the biological families. Assuming the foster homes provide adequate care and nurturance, there are also likely benefits over institutional care in terms of providing a family setting and participation in a community. Another consideration, is the effect of caring for a disabled child(ren) on the foster family, particularly if there are other children in the home. While significant cost-savings were achieved, these important questions were not addressed.

Family Support Program. Olds and colleagues examined the effectiveness of a family support program during pregnancy and the first two years after birth (124). In a randomized clinical trial, four treatment groups were provided with different combinations of the following services: sensory and developmental screening of the children, free transportation to prenatal and well-child visits, nurse home visits during pregnancy, and nurse home visits during the child's first two years of life. The sample consisted of 400 women who were having their first baby, and were under 19 years of age or single or of low socio-economic status. The nurse-visited and comparison group women were equivalent on all standard sociodemographic characteristics, and the few differences in psychological and social support variables were controlled for in the analyses.

Olds found that 19% of the comparison group at highest risk (poor, unmarried, teen mothers) maltreated their children, compared to 4% of the mothers who were visited by a nurse for the extended period ($p=.07$). This same high risk group who were nurse-visited reported that their babies cried less frequently compared to their comparison group ($p=.07$); there was less conflict and scolding ($p=.06$ and $p=.09$ respectively); they punished their infants less when assessed at 10 and 22 months of age ($p=.007$ and $p=.04$ respectively); they had fewer emergency room visits ($p=.04$), and their babies had higher developmental quotients at 12 and 24 months ($p=.06$ and $p=.08$ respectively). Although not all the findings were significant at the $p \leq .01$ level, these findings constitute a clear pattern of improvements made by the highest risk group of poor, unmarried, teen mothers. Perhaps most important is the finding of diminished maltreatment in the treatment group, supported by social service records, maternal reports, observations of maternal care giving, the children's developmental tests and emergency room records. This is further supported by the findings of the pregnancy phase of the study. Nurse home visitation led to improvements in women's use of community services, their levels of informal social support, their dietary and smoking habits, as well as the birthweight and length of gestation of babies born to young adolescents and smokers (271).

Olds cautions that the nurse-visited, unmarried women reported a greater sense of control over their lives at the outset of the study compared to the comparison group. This factor was attenuated, however, in that a greater sense of control was associated with an increased likelihood of discontinuing the nurse-visited condition. In addition, as

Olds observes, it is theoretically reasonable that the most positive results would accrue to the most vulnerable group. That several outcome variables, not associated with a sense of control, showed significant improvement, suggests that changes were due to the nurse intervention.

Olds is in the process of conducting a cost-effectiveness analysis of this project. He reports that preliminary findings suggest the intervention is extremely cost-effective when applied to the highest risk group in the study (272).

A few other projects similar to that of Old's have been evaluated. Gray et al's program involved intensive pediatric primary care and weekly home visits by public health nurses (273). High risk families were randomly selected to receive the intervention or to serve as controls. The intervention group had significantly fewer hospitalizations for injuries thought to be inflicted, but there were no differences on the other outcome measures. The sample size was small and outcomes were assessed in only half the subjects, perhaps contributing to the paucity of significant findings.

Another project evaluated the effectiveness of post-partum rooming-in and home visitation to low-income mothers (274). The home intervention consisted of 9 visits by paraprofessionals during the first 3 months of the infant's life, in order to facilitate a healthy interaction between mother and infant. Neither rooming-in nor home visitation had any significant impact on the incidence of child maltreatment, maternal attachment, or health care utilization. In contrast, another well designed study found that rooming-in led to a significant decrease in "parenting inadequacy" (275). Although the benefits of home visitation have not been uniformly demonstrated, the evidence suggest that these programs are effective.

Inter-Act: Street Theater for Parents. This program is one of a number of interventions using live theater or videotapes to communicate parenting information to audiences that would be difficult to reach through more traditional channels (130). Live performances or videotaped skits are presented in a variety of settings such as well-child clinics, shopping centers and state fairs. The content portrays realistic situations that demonstrate assertive problem-solving skills, using support systems, and alternatives to physical punishment.

This program has been evaluated by randomly pre- or post-testing different audiences. Because of the large numbers of performances and viewers, it was assumed that, those who received the pre-test were similar to the audiences post-tested. Audiences were classified according to "location and type of audience" into 3 groups: high risk, general public and professional; experimental and control groups in each category were tested. High risk groups consisted of unwed adolescents and adults waiting at an unemployment office. The general public were targetted in shopping centers and fairs.

The general audiences were found to alter their attitudes most significantly, while skits on child behavior management had most impact on the high risk groups. Short-term attitudes were significantly influenced. A videotape of the skits can be rented for between \$12 and \$25.

Many evaluations of this kind demonstrate significant gains in the proximate outcome measure, and this is a reasonable first step. Longer term attitudinal and behavioral changes now need to be evaluated.-

Project 12 - Ways (276). This university based program uses an "ecobehavioral" approach in offering clients a wide variety of in-home treatment, training and support services. In the evaluation of this program, 50 maltreating families were randomly selected from the client population, and compared to 47 families not involved in the program. All families were protective service clients who either had at least one maltreatment incident, or were considered to be high risk. Matching was done by the CPS agency, but their criteria are not presented. With access to the Illinois State Central Register, the researchers were able to assess the number of substantiated incidents of maltreatment.

The results indicated that in the project group, one child (2%) was maltreated during treatment, and four (8%) were maltreated following treatment. The statistics for the comparison group were 11% during and 11% following treatment. There were 5 maltreatment incidents in the total program group, and 15 in the comparison group, ($p < .05$).

While these results are encouraging, it is apparent that the programs major impact occurred during treatment, when families were under surveillance, and there was little evidence of enduring program effects. In addition, the appropriateness of the comparison group is uncertain, as is the duration of the follow-up period.

Lay Therapy. Hornick and Clarke recently reported a cost-effectiveness analysis of lay therapy treatment for child maltratment, compared to a standard social work treatment approach (277). Fifty-five clients of a child protective service agency were randomly assigned to one of the programs. Comprehensive assessments of families were made by several standardized measures that were used to collect data from the clients, social workers and lay therapists. Many of the measures were also given to a community group, whose means scores were set as goals of the treatment approaches. At the outset, significant differences were found between the community sample and the study groups in psychological characteristics, parental practices, attitudes and behavior. Baseline data were obtained followed by assessments at 6 and 12 months. Both treatment groups achieved similarly significant progress, with the lay therapy approach marginally more successful, particularly in the first 6 month period. In addition, there was less attrition from the lay therapy program - 74% of clients involved at 12 months compared to 50% with the standard approach.

The lay therapy program involved substantially more time spent with clients, special supervisors for the lay-therapists, and also included about 3 hours per month of social work time. For these reasons, the program was estimated to cost \$225 per month per client compared to \$93 for the standard social work approach. The authors suggest that the lay therapy model could be made possibly more cost-effective if it is integrated into the host child protection agency, redundancy of supervision is avoided, and the lay therapists carry 10 or more clients.

VIII. CONCLUSIONS

Child maltreatment affects the lives of millions of American children and families. Knowledge about child maltreatment is growing steadily. Evaluation research and cost-effectiveness analyses of prevention programs offer some useful insights; however, we still lack information about which preventive approaches work, for whom, and under what circumstances. There is a clear need for rigorous scientific assessment in the field.

Leventhal (278), Finkelhor (8), and Gray and Leonardi (279) have offered useful guidance for research in child maltreatment. Key methodological issues include: adequate description of the sample, clear definition of the independent and dependent variables, the use of valid and reliable measures, and the use of an appropriately matched comparison group. However, there are a number of inherent difficulties in doing scientific research on child maltreatment. In high risk situations, it is not ethical to randomly assign subjects, considered to be in need of services, to treatment or comparison groups. Alternative strategies are to compare different programs, or to study those waiting for an opening in a treatment program as a comparison group.

Another problem can be the ascertainment of the critical outcome measures which are the occurrence of different types of child maltreatment. Reports are often confidential, and direct observation is virtually impossible. In some areas, child protection agencies have cooperated with researchers, or have hired their own research staff, while protecting the confidentiality and rights of clients. Another approach is to use proxy outcome measures, such as parental attitudes and behavior towards the child. This is frequently a necessary first step, and not altogether unsatisfactory, because the incidence of abuse might be a too narrow and stringent outcome measure, and enhanced family functioning is also important.

Very few longitudinal studies have been done, largely due to budget constraints. However, long-term outcomes are of critical interest, and research in this area is imperative. Despite methodological difficulties, the majority of prevention programs are amenable to scientific assessment. Possibilities include a time series design to evaluate the effect of media announcements, pre- and extended post-tests for sex abuse education classes, and comparisons between the maltreatment incidence rates for similar communities with differing resources.

In planning future evaluation research, cost-effectiveness analyses should be included. A difficulty is whether to include as costs a variety of services that indirectly might support families and prevent maltreatment. Aside from specific program activities, there are additional resources such as Head Start or Medicaid; their indirect contribution and cost are not easily estimated. The area of child maltreatment does not seem conducive to cost benefit analyses, because there are many "intangibles" that cannot readily be assigned a dollar value. Although evaluation research adds to project costs, Gray and Leonardi have suggested strategies that are relatively inexpensive (279).

The National Center on Child Abuse and Neglect (NCCAN) is mandated by law to evaluate prevention and treatment programs. Several large and expensive NCCAN program evaluations were cited in the previous section. However, these evaluations are of little value because of the methodological weaknesses. Moreover, NCCAN has tended to fund the development of small demonstration programs, for approximately one or two years. This has made evaluations of individual programs extremely difficult due to the time required to establish the program and the limited funds available for evaluation. As

the national agency responsible for information about child abuse and neglect, NCCAN should provide more funding for high quality research and evaluation, particularly for longitudinal studies (280).

The evaluations reported on in the previous section offer some empirical evidence regarding which preventive strategies appear to be effective. Future research should focus on these types of programs:

1. The home health visitor, using a nurse or supervised lay person to support high risk families, is the intervention most clearly demonstrated to be effective, and possibly cost-effective.
2. Lay group counseling appears to be more readily accepted than professional interventions, and is usually less expensive. Professionals in the field should help foster and support such groups.
3. Family and group counseling seems to be more effective than individual counseling, and the costs are substantially less.
4. School-based programs to prevent sexual abuse have been shown to be moderately successful in teaching children certain skills and conveying important information. These programs should continue to be evaluated, including potentially negative ramifications, as well as cost-effectiveness.
5. Teaching key skills, and particularly job training to adolescents, appears to enhance functioning, increase self-esteem, and broaden employment opportunities.

In addition to the above programs, there are a number of preventive strategies that seem worth pursuing, although their effectiveness has not yet been demonstrated. The reality is that children and families who are hurt by maltreatment cannot wait until research provides the answers. In the meantime, the best available information can be used to guide the development of policies and programs. Daro (10), Cohn (281), and the National Committee for the Prevention of Child Abuse have provided leadership in this area.

1. Daro's suggestion of building on existing formal and informal systems is appropriate, particularly in the current political and fiscal climate, since there is little interest in expanding or initiating social programs (10). For example, the school system should incorporate curricula that offer sexual abuse prevention classes, life skills training, and parenting education. In addition, given the many problems associated with teenage pregnancy, sex education and school health clinics could directly or indirectly help prevent child maltreatment.
2. Daro also suggests fostering a collaborative effort between the public and private sectors (10). This idea is consistent with the Reagan Administration's agenda; however thus far the contribution by the private sector has been relatively trivial. Clearly, it would be disastrous for the Federal and state governments to abdicate their roles.
3. Community supports buffer the stresses that many maltreating families face (282). Childcare programs, self-help groups such as Parents Anonymous, and crisis services are examples of interventions that can be recommended. Community groups can also play a valuable role in providing public information and education on child maltreatment, and in directing families to local resources.

4. Support programs for new parents, such as in the Olds project, seem to be valuable interventions. Prenatal health services, education about child development, child rearing and family relationships, information on community resources, and home health visitors appear to be helpful interventions for high risk families. Childbirth procedures that encourage fathers to be present, rooming-in, and unrestricted visiting for parents with their infants, appear useful in enhancing family relationships.
5. Child protective service agencies are generally in a beleaguered position, struggling to cope with overwhelming demands and limited resources. They need greater financial support, as well as reassessment of their administrative structure and processes. Improved pre- and in-service training of case workers is also crucial.
6. There is a shortage of treatment programs for abused children, and for the perpetrators of maltreatment, across the nation.
7. Finally, contributory factors such as poverty, unemployment, and the acceptance of violent behavior in U.S. society need to be addressed, at the state and Federal levels. Child maltreatment is a public health problem that warrants a multifaceted collaborative strategy (283, 284). Treatment of individual cases is unlikely to provide an adequate solution. Legislators at all strata of government need to appreciate the extent of child maltreatment in the U.S., the contributory factors, the effects, and what needs to be done to prevent it.

The human and financial costs of child maltreatment are immense, to individuals, families, and to society. Thus far, research has provided a few clues, which need to be pursued. Much has been learned, but much is still unknown, making prevention a major challenge.

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